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LATENT SYPHILIS

Study of One Hundred and Sixty-Nine Cases Observed Ten Years or More

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ONLY meager information on the outcome of treated and untreated latent syphilis is available in the literature. The reason for this is that no information of value can be obtained except by follow-up studies of patients observed over a period of many years. It is our opinion that at least ten years, and preferably a lifetime, must intervene from the time of the first observation of the patient before any attempt can be made to evaluate the efficacy of treatment rendered or to determine the outcome of untreated syphilis. Furthermore, only by observation of such patients over a period of many years can data be obtained as to the proper amount of treatment that patients with latent syphilis should receive to prevent complications in later life and to determine what relation, if any, serologic tests have on the final clinical outcome. Most texts on syphilology cite the figures compiled by the Cooperative Clinic Group in 1932 [1] on the outcome of treated latent syphilis and those gathered by Bruusgaard in 1929 [2] on the prognosis of untreated syphilis. The comprehensive work done by the Cooperative Clinic Group in regard to treated latent syphilis enumerates results of observations on only 40 patients followed ten years or more; and, although in this report data are presented on many hundreds of treated patients with latent syphilis, it is our opinion that figures for those followed less than ten years are of little or no value in determining the effectiveness of treatment in preventing late complications.

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1. Moore, J. E., and others: Cooperative Clinical Studies in Treatment of Syphilis, Ven. Dis. Inform. **13**:371 (Oct. 20) 1932.

2. Bruusgaard, E.: Ueber das Schicksal der nicht spezifisch behandelten Luetiker, Arch. f. Dermat. u. Syph. **157**:309, 1929.

Recently Kahn and Becker [3] published a paper on the results of the treatment of 200 persons with latent syphilis with relatively large amounts of bismuth, but most of their patients were followed for only short periods and accordingly little is known about the ultimate clinical outcome of this group of patients, since they were not observed for a sufficiently long period. Also Diseker, Clark and Moore [4] reported on the clinical outcome of 926 cases of latent syphilis observed five years or more and emphasized that the serologic outcome was unimportant and unrelated to the clinical outcome. The authors expressed the belief that the optimum amount of treatment for latent syphilis is approximately twenty injections of an arsenical and a corresponding number of injections of a heavy metal, regardless of the state of the blood serum at the time of cessation of treatment.

Not only is there slight information available on the ultimate clinical outcome in cases of treated latent syphilis, but there is likewise little information on the ultimate outcome in cases of untreated syphilis. Data on this subject are difficult to compile, since, again, only observation of untreated patients over a period of many years can throw any light on this subject. The only data of any importance gathered on this subject are those compiled by Bruusgaard, who observed 309 patients with untreated early syphilis from three to forty years after the infection and reported that about 28 per cent had negative Wassermann reactions and approximately 28 per cent had either a positive serologic reaction or benign late syphilis. While the data compiled by Bruusgaard are the most valuable thus far collected on the outcome of untreated early syphilis, they by no means furnish complete information, since most of his patients did not have repeated serologic tests, and it is our opinion that only repeated serologic examinations over a period of many years can furnish conclusive information on the question of spontaneous serologic cure. Also the group of patients with whom he started had frank early syphilis, for whom, some observers believe, there is a more favorable prognosis than for persons in whom no clinical manifestations of early syphilis occur. The latter type of patients were not considered in his report, nor was he able to include Negroes in his study. Because of this necessary omission on Bruusgaard's part, his figures do not truly represent the facts for a mixed white and Negro population, since it is well known that the percentage of late cardiovascular syphilis is much higher in the Negro race.

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3. Kahn, D., and Becker, S. W.: Use of Bismuth Compounds in Syphilotherapy: Results of Treatment of Latent Syphilis by Bismuth Compounds Combined in Part with Arsenicals, J. A. M. A. **120**:338 (Oct. 3) 1942.

4. Diseker, T. H.; Clark, E. G., and Moore, J. E.: Long-Term Results in the treatment of Latent Syphilis, Am. J. Syph., Gonor. & Ven. Dis. **28**:1 (Jan.) 1944.

Our study presents data obtained on 169 patients with latent syphilis observed ten years or more, 100 of whom were considered well treated and 69 poorly treated. The Meyer Memorial Hospital clinic, from which most of the data have been obtained, is a large hospital which takes care of the medical and dental needs of a high percentage of the indigent people of the city. It furnishes hospitalization, outpatient clinic service and home call service and has numerous dispensaries throughout the city. Because of these services many patients report back to the hospital at frequent intervals, and, because of this, patients with syphilis are observed over a period of many years. This results in repeated physical examinations and serologic tests.

The term "latent syphilis" as employed in this study means that there were no clinical signs and symptoms of syphilis at the time of the examination of the patients. Diagnosis was usually made because of repeatedly positive serologic reactions or the birth of a congenitally syphilitic child. Examinations of the spinal fluid were made at least once for 94 of the 100 patients in the well treated group and for 29 of the 69 patients in the poorly treated group. No patient known to have had a positive spinal fluid on the first examination is included in this study, and no patient who did not have a spinal fluid examination and in whom later a syphilitic neurologic complication developed is included. These, plus an observation period of ten years or more, were the only criteria for the selection of patients. The period of ten years was decided on because it was our opinion that in a syphilitic person without clinical evidence of the disease serious complications require several years to develop and that death from such complications in less than ten years is a remote possibility.

The serologic tests made at the first examination of the patients were the standard New York state Wassermann test then in vogue and the standard Kahn test. Subsequent serologic tests also were standard New York state Wassermann and Kahn tests, with refinements as they developed. The tests therefore at the end of the period of observation may, in general, be said to be more sensitive than those employed at the time of the original diagnosis.

The 169 patients were divided into two groups solely on the basis of the total amount of treatment received. Group I, considered poorly treated, consisted of 69 patients who received either no treatment or less than a total of forty injections, and group II, considered well treated, consisted of 100 patients who received forty or more injections of an arsenical drug and a heavy metal, either alone or in combination. In most instances the arsenical drug employed was arsphenamine, the average dose 0.3 to 0.4 Gm. On some occasions neoarsphenamine, silver arsphenamine or sulfarsphenamine was employed. None of the patients was treated with oxophenarsine hydrochloride, since this drug

was not in use during the period that the patients were under treatment. The heavy metal usually employed was bismuth subsalicylate, given in doses of 100 mg. of metallic bismuth once a week. In a few instances mercury was employed. When the term "arsenical" is used in this paper, it means any one of the preceding arsphenamines mentioned, and when the term "heavy metal" is used it means either bismuth or mercury. All data concerning these patients were directly gathered by us and most of the patients have been personally observed by us.

DATA ON GROUP I

Of the 69 patients with latent syphilis who received little or no treatment, there were 38 men and 31 women. Of these 19 were white men, 19 Negro men, 11 white women and 20 Negro women. The average age of the patients when first examined was 33. They were observed over an average period of between thirteen and fourteen years. The average age of these patients at the end of the study was 46 years. Fourteen patients were observed for fifteen years or more, and the longest period of observation was twenty-nine years. Eighteen of the 69 patients gave a history of frank early syphilis, and the average duration of syphilis in this group was nine and nine-tenths years when first examined. At the end of the period of observation, this group had had syphilis for an average of twenty-two and nine-tenths years. They received an average of five and eight-tenths injections of an arsenical drug, and five and five-tenths injection of a heavy metal. This treatment was given irregularly, with long intervals between treatments.

Behavior of Blood Serum of the Poorly Treated Patients During Period of Observation.—Sixty-three of the 69 poorly treated patients had fully positive serologic reactions with the technic used at the time of the original examination. Four of the 69 serologic reactions were moderately positive, and 2 were weakly positive. Over the period of more than thirteen years during which these patients were observed and during which many serologic tests were performed, there was great fluctuation in the degree of positivity of the serologic reactions. Of the 63 patients who originally had serologic reactions of maximum positivity, only 29 had strongly positive reactions on all succeeding tests. Twenty-nine of these 69 patients at some time during the period of observation had an entirely negative reaction, and the reactions of 13 of these subsequently became positive. Thirty-four of the 63 showed a tendency toward reversion of the reactions to negativity during the period of observation, since the results of their serologic tests did not remain strongly positive but fluctuated during the observation period. During this period of observation it was noted that without treatment

the reactions frequently became negative for prolonged intervals and then became positive again or were weakly positive at intervals and then strongly positive. In 16 of the 69 patients, the serologic reactions of the blood were entirely negative during the last four years or more of observation (see table 1). There is, therefore, a definite tendency for the blood serum of untreated or poorly treated persons with latent syphilis to fluctuate between complete negativity and strong positivity. It is obvious, because of this fact, that one must be guarded in speaking of spontaneous serologic cure or serologic cure as a result of treatment since fluctuation of serologic reactions is characteristic of untreated or poorly treated latent syphilis. We did not believe that we were justified in concluding that the 16 patients whose reactions were negative during the last four years or more of observation had undergone a spontaneous serologic cure. More examinations during the period of observation or examinations at a later date might have shown that some of them had again reverted to

TABLE 1.—*Wassermann Reactions of the Blood During Observation*

	Number
Consistently strong	29
Strong to negative	5
Moderately positive to strong	10
Weak to negative	8
Weak	1
Negative (four years or more)	16
Total	69

Twenty-nine subjects had negative reactions at some time during observation, while 34 had a tendency toward reversal of the Wassermann reactions (that is, less then maximum positivity) several times during observation.

serologic positivity. We therefore hesitate to accept Bruusgaard's figure of 28 per cent spontaneous serologic cures, since his figures were for the most part based on a single serologic examination. Our observations also make it apparent that in patients suspected of having syphilis, such as the marital partner of a known syphilitic patient, single or even multiple tests do not rule out the possibility of syphilis. Tests must be made once or twice yearly for a minimum of five years.

Complications.—Twenty-seven certain complications developed in the poorly treated group of patients. Cardiovascular complications were by far the most common (table 2). There were twelve major cardiovascular complications, in the form of aortic insufficiency and saccular aneurysm, and thirteen certain and four probable minor cardiovascular complications in the form of simple aortitis. We believe that more prolonged observation of the patients with minor complications might have shown that some of them had progressed clinically and that more

serious late syphilitic heart disease had developed. In addition to the cardiovascular complications, two more certain complications developed; in 1 patient [5] paresis developed, and in another a late cutaneous syphilid. In another patient hepatic cirrhosis developed, probably unrelated to the syphilitic infection.

Our patients showed a high incidence of cardiovascular complications. It is our opinion that this does not reflect the general trend of untreated latent syphilis observed over an average period of thirteen years. We felt that some of the 12 patients with aortic insufficiency and saccular aneurysm returned to the hospital as a result of symptoms coincident with these complications, and therefore not all can be included in an estimation of the percentage of untreated latent syphilitic patients in whom cardiovascular syphilis will develop. We do believe, however, that the 13 patients with aortitis confirmed by roentgenologic

TABLE 2.—*Complications of Latent Syphilis Poorly Treated*

	Number	Per Cent
1. Cardiovascular		
Probable aortitis (physical signs)	4	
Aortitis roentgenologically confirmed	13	
Aneurysm	5	
Aortic insufficiency	6	
Aneurysm and aortic insufficiency	1	
Certain cardiovascular complications	25	36.2
Probable	29	42.0
2. Other complications		
Paresis	1	
Hepatic cirrhosis	1	
Late cutaneous syphiloid	1	
	3	
Total certain complications	27	39.2
Total probable complications	32	46.3

examination and the 4 with probable aortitis did not return to the hospital as a result of this complication, since in most instances the aortitis was discovered on routine physical and roentgenologic examinations and symptoms were minimal.

From our observations, we believe that in 20 to 25 per cent of persons with untreated or poorly treated latent syphilis some cardiovascular complication will develop in later life. This figure is approximately twice that estimated by Moore, based on Bruusgaard's data, but one must remember that Bruusgaard's patients were all white, that many had not reached the age when cardiovascular complications develop, and that all had frank early syphilis. On the other hand, our group includes 39 Negro patients, among whom cardiovascular com-

5. This patient had negative clinical signs and symptoms of syphilis and a negative spinal fluid when first observed. Fourteen years later, when paresis developed, the spinal fluid was strongly positive.

plications are expected to be much higher. Most patients had reached the age when cardiovascular complications develop, and the study includes patients who did not have frank early syphilis.

Relationship of the Serologic Reaction of the Blood to the Development of Complications.—Of the 16 patients who had negative serologic reactions of the blood during the last four years or more of observation none had certain but 3 had probable late complications. These were suspected of having aortitis. In the 24 patients whose reactions varied from negative to positive but were not negative during the last four years or more of observation, 2 certain cardiovascular complications and 1 probable one developed. The cases of paresis and hepatic cirrhosis occurred in this group. The 29 patients whose blood serum was fully positive on all occasions when it was examined had twenty-three certain cardiovascular complications. The case of tertiary syphilid of the skin also occurred in this group (table 3). This fact suggests that consistently

TABLE 3.—*Relationship of Serologic Reaction of the Blood to Development of Complications in the Poorly Treated Group*

Serologic Reactions	Cases, No.	Complications			
		Certain, No.	Probable, No.	Certain, per Cent	Probable, per Cent
Negative last 4 years or more	16	0	3	0	18.7
Less than maximum positivity on one or more examinations but not negative last 4 years	24	3	2	12.5	8.3
Consistently fully positive	29	24	0	82.7	0
Totals	69	27	5		

positive blood serums in poorly treated syphilitic patients observed over a considerable period is a bad prognostic sign, and, likewise, fluctuation in or reversal to negativity of the blood serum is a good prognostic sign. Therefore, if syphilis is present in patients with doubtful serologic reactions the ultimate clinical outlook may be good even if treatment is withheld.

Physicians frequently see patients who have weakly positive or doubtful serologic reactions and are in a dilemma as to whether the patient has syphilis. They are fearful that if syphilis is present they may do harm by withholding treatment and that if syphilis is not present they may cause unjustifiable mental anguish and physical discomfort and subject the patient to the risk of a major reaction if treatment is instituted. Our studies suggest that little or no harm will result from withholding treatment in such cases, and it is our belief that treatment should not be administered when there is no other evidence of syphilis, including history, than weakly positive serologic reactions, except possibly for pregnant women.

Relationship of Frank Early Syphilis to Late Complications.—Eighteen of the 69 patients gave a history suggestive of primary or secondary syphilis, and in this group there were 8 with certain cardiovascular syphilis and 2 with probable cardiovascular syphilis. There was also 1 with tertiary syphilid of the skin, and the patient with paresis belonged in this group (table 4). This brings up the question whether an early, well marked tissue reaction to the spirochete is evidence of immunity on the part of the host or whether such a strong tissue reaction indicates a greater degree of allergy to the spirochete, and therefore an increased tendency toward development of late serious complications of syphilis. Of the total certain late complications, ten of the twenty-seven occurred in this group of patients, an incidence

TABLE 4.—*Relationship of Frank Early Syphilis to Late Complications in Poorly Treated Patients with Latent Syphilis*

		Complications, per Cent
Number giving history	18	
Males	15	
Complications		
Certain cardiovascular	8	53.3
Probable cardiovascular	2	13.3
Total	10	66.6
Females	3	
Complications		
Tertiary cutaneous syphilid	1	33.3
Paresis	1	33.3
Total	2	66.6
Total number certain and with probable complications	12	66.6

of 55.5 per cent, while for the entire group the incidence of certain complications was 39.2 per cent. It appears therefore that patients with frank early syphilis have a prognostic outlook no better than, if as good as, those in whom early symptoms are minimal or absent.

DATA ON GROUP II

Of the 100 patients who received more than a total of forty antisyphilitic injections, there were 52 men and 48 women. Of these, 37 were white men, 15 Negro males, 35 white women and 13 Negro women. The average age of the patients when first examined was 37.1 years. They were observed over an average period of eleven and three-tenths years; therefore the average age at the end of the observation period was 48.4 years. The longest period of observation was nineteen years, and 9 of the patients were observed fifteen years or more. Thirty of the 100 gave a history of early syphilis. This group had had syphilis an average of eleven and seven-tenths years.

The patients received an average of twenty-eight and seven tenths injec-jections of an arsenical drug and seventy-eight injections of a heavy metal.

Serologic Reactions of the Blood During the Period of Observation.—Of the serologic reactions determined prior to treatment, 78 were of maximum positivity, 11 were moderately positive and 11 were weakly positive. During the period of treatment and observation, 9 patients had fully positive reactions on all subsequent examinations; 12 had reactions varying from strongly positive to completely negative and 5 from weakly positive to strongly positive; 12 had reactions which remained weakly positive and were at no time completely negative; the reactions of 22 varied from weakly positive to entirely negative, and 40 had negative serologic reactions for the last four or more years of observation. Seventy-four of the 100 patients had negative serologic

Table 5.—*Serologic Reactions of the Blood of Well Treated Patients with Latent Syphilis*

Prior to treatment	
Maximum positivity	78
Moderately positive	11
Weakly positive	11
Total	100
During the observation period *	
Consistently strong	9
Strong to negative	12
Weak to strong	5
Weak	12
Weak to negative	22
Negative last four years or more	40
Total	100

* Seventy-four patients had negative serologic reactions sometime during observation, while 91 had a tendency toward reversal (that is, less than maximum positivity) several times during observation.

reactions at some time or other, but the reactions of only 40 of the 100 remained negative four years or more. Sixty-nine of the 78 patients who had fully positive reactions on the first examination showed a tendency to serologic reversal, that is, the reaction was not fully positive several times during the period of observation (table 5). It is obvious from this fact, as in the cases of poorly treated patients with latent syphilis, that one must be guarded in speaking of serologic cure, since there is a decided tendency for the blood serum of patients with treated latent syphilis to fluctuate over a period of years. The serologic reaction may be entirely negative at one time and may range from weakly to strongly positive at another. We did not believe that even the group that had negative reactions four years or more could be regarded as serologically cured. Longer observation or more frequent serologic tests might have shown variation in their reactions. Only

17 per cent more of the well treated patients had negative serologic reactions during the last four years or more of observation than of the poorly treated patients; therefore, antisyphilitic treatment of latent syphilis as administered by us resulted in only a 17 per cent doubtful increase in the number of serologic cures above that spontaneously achieved in the poorly treated group. The Cooperative Clinic Group reported that from the standpoint of serologic reactions 85 per cent of their 40 patients followed ten years were cured; however, if repeated negative reactions over a period of years had been their criterion for serologic cure, it is doubtful that their percentage would be nearly so high. If serologic cure is the objective in the treatment of latent syphilis, it is obvious from our figures that our treatment was a failure.

Complications Which Developed in the Well Treated Group.—In the 100 well treated patients, four complications developed. Two of these were aortitis confirmed by roentgenologic examination, and two others were cases of saccular aneurysm. There were no other complications.

TABLE 6.—*Relationship of Serologic Reactions of the Blood to Complications in Well Treated Patients with Latent Syphilis*

Complication	Number of Cases	Serologic Reactions of Blood
Aortitis	1	Weak to positive 5 yr. prior to onset
Aortitis	1	Negative 3 yr. prior to onset
Saccular aneurysm	1	Negative 9 yr. prior to onset
Saccular aneurysm	1	Varied moderately from positive to negative

Thus, treatment of this group resulted in an incidence of late complications of 4 per cent, as compared with 39 per cent in the poorly treated group, and, while a failure from the serologic standpoint, the treatment was brilliantly successful from a clinical point of view.

Relationship of Serologic Reactions to Complications in Well Treated Group.—Of the 2 patients with aortitis, 1 showed a variation in serum from weakly positive to negative for five years prior to the onset of clinically recognizable aortitis. In the other, the blood serum was negative for three years prior to the onset. In 1 patient in whom an aortic aneurysm developed, serologic reactions had been negative for nine years prior to the development of aneurysm, and in the other the reactions varied from moderately positive to negative (table 6). Thus, it is obvious that in the case of well treated latent syphilis, the condition of the blood serum bears no relationship to the development of complications, inasmuch as all patients in whom complications developed showed a decided tendency to serologic reversal. It is our opinion, therefore, that serologic reactions in well treated patients with latent syphilis are of no prognostic importance and cannot be used as a guide to treatment. We therefore agree with Diseker [4] and his co-workers that too much emphasis has

been put on the serologic cure of patients with latent syphilis while the only important consideration is the prevention of late complications. There is, in our opinion, no connection between these two factors. Patients in whom the blood serum fails to become negative with treatment do at least as well from a clinical standpoint as do those whose serum becomes negative.

Relationship of Clinical and Serologic Outcome to Amount of Treatment Given in the Well Treated Group.—The well treated patients were divided into subgroups based on the number of injections of an arsenical drug and also on the number of injections of a heavy metal they received. The clinical and serologic outcome of these subgroups was compared. Based on the number of injections of an arsenical drug, the patients were divided into three subgroups (table 7). The first of these subgroups received nineteen or less injections; the second, twenty to twenty-nine

TABLE 7.—*Summary of Results According to Amount of Treatment with an Arsenical in Well Treated Patients with Latent Syphilis*

Number of Injections	Number of Cases	Serologic Reactions of Blood During Observation			Complication		
			No.	%		No.	%
0-19	22	Negative 4 yr. or more	7	31.8	Aortitis	2	
		Varied	12	54.5			
		Strongly positive	3	13.6	Aneurysm	1	13.6
20-29	24	Negative 4 yr. or more	12	50.0			
		Varied	11	45.8	0		0
		Strongly positive	1	4.1			
30 or more	54	Negative 4 yr. or more	21	38.8			
		Varied	28	51.8	Aneurysm	1	1.9
		Strongly positive	5	9.2			

injections, and the third, thirty or more injections. In the first subgroup there were 22 patients. Seven, or 31.8 per cent, of these had a negative blood serum during the last four or more years of observation. In this subgroup three or four complications occurred; in 2 patients a syphilitic aortitis developed and in 1 an aneurysm of the aorta, making the percentage of complications in the group 13.6 per cent. Twenty-four patients received twenty to twenty-nine injections. Twelve, or 50 per cent, of this subgroup had negative serologic reactions during the last four or more years of observation, and there were no complications. Fifty-four patients received thirty or more injections. Twenty-one, or 38.8 per cent, of this subgroup had negative serologic reactions during the last four or more years of observation, and 1 patient in this group acquired an aneurysm of the aorta.

The data show that there is only slight gain from a serologic standpoint if large amounts of arsenical drugs are used. In the group which received nineteen or less injections, 31.8 per cent had negative serologic reactions during the last four or more years of observation. In the group

which received twenty to twenty-nine injections of an arsenical drug, the percentage rose to 50, but in the group which received thirty or more injections the percentage again fell to 38.8. From a serologic standpoint, twenty to twenty-nine injections of an arsenical drug produced the best result; further arsenical therapy accomplished nothing from this standpoint. From the clinical standpoint, the poorest results were obtained in the group which received nineteen injections or less of an arsenical drug and in whom three of the four complications developed. There were no complications in the group which received twenty to twenty-nine injections of an arsenical drug, but in 1 patient in the group which received thirty or more injections aneurysm developed. Thus, from a clinical standpoint twenty to twenty-nine injections of an arsenical drug also produced the best result, while further arsenical

TABLE 8.—*Summary of Results According to Amount of Treatment with a Heavy Metal in Well Treated Patients with Latent Syphilis*

Number of Injections	Number of Cases	Serologic Reactions of Blood During Observation	No.	%	Complication	No.	%
40-69	14	Negative 4 yr. or more	6	42.8			
		Varied	5	35.7	Aneurysm	1	7.2
		Strongly positive	3	21.4			
70-99	33	Negative 4 yr. or more	14	42.4	Aortitis	1	
		Varied	18	54.5			6.0
		Strongly positive	1	3.0	Aneurysm	1	
100-139	32	Negative 4 yr. or more	15	46.8			
		Varied	14	43.7	Aortitis	1	3.1
		Strongly positive	3	9.3			
140 or more	21	Negative 4 yr. or more	5	23.8			
		Varied	14	66.6	0		0
		Strongly positive	2	9.5			

therapy failed to prevent the development of aneurysm in 1 case. Of the 78 patients in the second and third subgroups who received twenty or more injections of an arsenical drug, there was only 1 late serious complication, an incidence of 1.3 per cent.

The clinical and serologic results obtained by varying numbers of injections of a heavy metal were compared in the same way as were the results with arsenical drugs (table 8). The 100 patients were divided into four subgroups. The first of these subgroups, comprising 14 patients, received between forty and sixty-nine injections; 6 of these patients (42.8 per cent) had negative serologic reactions during the last four or more years of observation. One aneurysm of the aorta occurred in the group. There were 33 patients in the second subgroup; they received between seventy and ninety-nine injections. Fourteen, or 42.4 per cent, of these patients had negative serologic reactions during the last four or more years of observation. There was 1 case of aortitis and 1 of aneurysm. In the third subgroup there were 32 patients; they

received between one hundred and one hundred and thirty-nine injections. Fifteen, or 46.8 per cent, of this subgroup had negative serologic reactions during the last four or more years of observation. There was 1 case of aortitis. The last of the subgroups, in which there were 21 patients, received more than one hundred and forty injections. Five of these patients, or 23.8 per cent, had negative serologic reactions during the last four or more years of observation. There were no complications.

The data show that the amount of heavy metal received had no appreciable effect on the serologic outcome. The percentage of patients with negative reactions during the last four years of observation was approximately the same for the group which received forty to sixty-nine injections of a heavy metal as for the group which received seventy to ninety-nine injections. The percentage rose in the group which received one hundred to one hundred and thirty-nine injections but fell again in the group which received one hundred and forty or more injections. Thus, from a serologic standpoint, little is to be gained by prolonged therapy with a heavy metal. From a clinical standpoint, the complications were fairly evenly divided between the four groups, and there was no decided preponderance in the group which received the smallest amount of heavy metal therapy. From these studies, therefore, arsenical drugs seem more important in preventing serious late complications than do heavy metals. Our observations concur with those of Diseker, Clark and Moore in this regard. These authors found that the highest percentage of complications occurred in patients receiving little arsenical therapy.

Howe's [6] studies on the pathologic appearance of the aortas of treated and untreated patients with syphilitic aortitis who die from any cause showed that the amount of cellular infiltrate in the aortic wall bore an inverse relationship to the amount of arsenical that the patient had received. There was little correlation with the intensity of treatment with bismuth or mercury.

We were unable from our studies to determine the exact optimum amount of heavy metal therapy, but forty to sixty injections seems adequate and probably more than necessary. We do not believe that prolonged bismuth therapy, as recommended by Kahn and Becker, is advantageous from a clinical or serologic standpoint, and the observations of Howe suggest that heavy metal therapy does not cause involution of an active syphilitic pathologic process in the aorta. We therefore believe that more emphasis should be placed on arsenical therapy for a patient with latent syphilis.

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6. Howe, E. S.: The Microscopic Appearance of the Aorta in the Treated and Untreated Cases of Syphilitic Aortitis, Am. J. Syph., Gonor. & Ven. Dis. **27**:50 (Jan.) 1943.

CONCLUSIONS

1. There is a decided tendency for the blood serum of persons with untreated or poorly treated latent syphilis to fluctuate over a period of years.

2. The reversal of the serologic reactions of the blood of untreated or poorly treated patients with latent syphilis to negative on single or even repeated examinations does not necessarily mean spontaneous serologic cure.

3. The serologic reactions of approximately 25 per cent of untreated or poorly treated persons with latent syphilis become negative spontaneously and remain so over a period of years.

4. In 20 to 25 per cent of untreated or poorly treated persons with latent syphilis belonging to mixed racial groups, including Negroes, some cardiovascular complication will develop when observations are made over a period in excess of thirteen years.

5. There is a definite relationship between the state of the serum in poorly treated or untreated persons with latent syphilis over a period of years and the ultimate clinical outcome. Persistence of strongly positive serum predicts a poor clinical outcome, whereas tendency to fluctuate indicates a relatively good clinical outcome.

6. Frank early syphilis does not confer special immunity to late complications.

7. There is a decided tendency for the blood serums of persons with well treated latent syphilis to fluctuate over a period of years.

8. Adequate antisyphilitic treatment of persons with latent syphilis results in only a 17 per cent increase in long term serologic reversals over those that occur spontaneously with little or no treatment.

9. Adequate antisyphilitic treatment reduces the hazard of late serious complications to a minimum.

10. There is no relationship between the state of the blood serum in persons with well treated latent syphilis and the development of late complications.

11. Arsenical drugs are more efficacious in preventing late complications than heavy metals.

12. Twenty to twenty-nine injections of an arsenical is adequate therapy. This should be combined with alternating courses of a heavy metal. More than this amount does not result in any reduction of complications.

13. Forty to sixty injections and, possibly less, of a heavy metal are adequate. This should be combined with adequate arsenical therapy. Further heavy metal therapy does not reduce the likelihood of late complications.

ABSTRACT OF DISCUSSION

DR. UDO J. WILE, Ann Arbor, Mich.: This is a valuable paper. I wish that one could study these figures a little bit more at leisure, so that one could get the correct interpretation of them, or at least have them interpreted a little more fully.

I want to ask one question: What became of the persons with neurosyphilis? There is no mention made in the discussion of all these patients who have been treated with regard to the incidence or accident of neurosyphilis. All that have been mentioned are the persons with cardiovascular syphilis.

Were there any patients, for example, who acquired tabes, paresis and visual symptoms of one kind or another?

DR. HAROLD N. COLE, Cleveland: There is a real need for careful studies on groups of syphilitic patients followed over a long period. It is for that reason that this study of Drs. Jordon and Dolce is so important. It helps to answer some of the unanswered questions that have arisen in various surveys of different types of syphilis. Thus, the Cooperative Clinic group, in their report on cardiovascular syphilis, emphasized this very item, that long-continued follow-up might certainly show that apparently well persons would succumb to cardiovascular complications. That is the point brought out by the authors.

It is seldom that any clinic can present data on 169 patients with latent syphilis observed ten years or more. The authors do well to emphasize the variability of the results of serologic examinations of the blood.

As they well show, in latent syphilis it is not serologic reactions that tell the story so much as the amount of treatment, yet they do emphasize the importance of a persistent, strongly positive serologic reaction of the blood as indicating a poor clinical outcome.

There are other most important observations: From 20 to 25 per cent of untreated or poorly treated persons with latent syphilis in mixed racial groups will have some cardiovascular complications when observed over a period of thirteen or more years. They also find that adequate antisyphilitic treatment reduces the hazards of late serious complications to a minimum.

I am surprised to note that the authors' data show arsenical drugs to be more efficacious in preventing late complications.

The Cooperative Clinic Group seem to have the idea that heavy metal, in the form of bismuth, helped a great deal in preventing these late complications. But here, again, the main point brought out is that it is the well treated patient that is far less liable to these crippling or even fatal complications than the one given irregular, inadequate therapy.

Again, there is another word of warning. A patient supposedly free from involvement of the central nervous system, both by physical examination and by lumbar puncture, fourteen years later reports with paresis. This patient, however, was in the poorly treated group.

The authors are to be congratulated on this careful, most laborious, five year investigation. Only one who has gone through such a study can realize the enormous amount of work and detail involved.

DR. PAUL A. O'LEARY, Rochester, Minn.: Late latency has probably caused more concern to the physicians who treat syphilis than any other form of the disease, because there have not been established sufficient criteria on which to base a rational therapeutic procedure for it. I have used the following three factors as a guide in determining the need for treatment in these patients: first, the duration of the syphilis in the patient; second, the age of the patient, and,

third, the amount of previous treatment the patient has received. I still feel these are significant guides, in that an elderly patient who has had latent syphilis for many years and who has been given fifty or more injections of an arsenical and a heavy metal is entitled to parole from further treatment, and, by the same token, a young patient with syphilis of ten years' duration who was treated haphazardly is in need of continued treatment, even though his disease is in the phase of latency.

I feel as Drs. Wile and Cole do, that this is an important contribution, because we have been under the impression, as a result of previous studies, that late latency is a safe state of syphilis for the patient.

It is important that Dr. Jordon's patients be followed from now on for at least another ten years, because no one has as yet had the opportunity to follow a sufficient number of patients through the life of their syphilis to know the actual significance of latency, and it is such studies as this that will give the needed information.

DR. CHARLES C. DENNIE, Kansas City, Mo.: I had the opportunity of reading Dr. Jordon's paper before it was presented here at the meeting, and so I had a little more time to go over it than some of the others.

I may say, and I think that I am right, that Dr. Jordon determined that all these patients had negative cerebrospinal fluids before he began the study. I believe that in his paper he reported but 1 case in which paresis developed in a patient with positive cerebrospinal fluid in this group. So that answers one of the questions.

In the first place, latency is determined not histologically but chronologically—early latency and late latency. The latter means after five or more years. Hence, since there are no good criteria for determining the condition, what is latency in syphilis and is it really latency? No, it is not, because these figures that the authors have given, showing a large percentage of involvement of cardiovascular syphilis during the course, especially of the untreated patients, show that in the majority of these cases there is no such thing as latency.

Also, there are no very accurate methods of determining whether or not these patients have signs or symptoms. In persons with congenital syphilis one has a much better opportunity to determine that type of activity, for one can look into the eye. It has been determined in our clinic, in over 1,600 children with active congenital syphilis, that each child has an average of 4.2 per cent of definite syphilitic changes in his eye. The eye is the only place where one can look in the determination of this.

In the case of an adult one might look into the bladder or into the stomach or into the rectum, but if one were able to look within the aorta, one would find that a large percentage of these patients had the organisms there.

Another point also brought up is that in these cases of latency the organism has time to become set in the patient. As has been shown many times here, it has long been the concept of the syphilologist that the adequate treatment of early syphilis has met with more success than any other type of treatment. That means that these organisms, which are so widely spread during the disease, have reached the places they are going to affect in later life and there entrench themselves. Scar tissue and fatty tissue are the final end of the pathologic condition.

Then enters the immunity of the body itself, the immunologic factor, which determines to a large extent when this disease will fluctuate upward or downward. To my mind, that is the explanation of the fluctuation of the titer of the syphilitic substances in the blood. At times the immunity of the patient is high; at times it is low.

We can see this phenomenon in the children with congenital syphilis in the so-called mixed families, in which the first child is sound, the second child is not sound and the third child is again syphilitic. Families are seen in which healthy children and syphilitic children occur, which shows the fluctuation of the immunologic factors of the human body if the syphilis is one of a fluctuating nature.

Bruusgaard, in the 309 cases of living persons who were known to have been syphilitic at one time, found that 27.9 per cent of them were free from the disease after ten to forty years. He did not examine the cerebrospinal fluids. In reviewing the autopsy records which he was fortunate enough to secure, he found that the vascular system was most often affected.

These observations point to the belief that the stronghold of Treponema pallidum is in the aorta and in the testes.

Care of the patient with latent syphilis demands that the patient be followed through life. This must be done not only by the physician alive at the present time but by the one who takes up his practice, because many of these syphilitic patients will live through the lives of both of these men. The problem finally boils itself down to the fact that some more accurate method of diagnosis of latent syphilis must be developed. Some method must be developed by which one can find out whether the disease is active when it is thought to be latent, because, I believe in most cases latent syphilis really is slowly active.

I think that the authors of this paper are to be congratulated for bringing up a subject which confuses the general practitioner more than any other he has.

Dr. Samuel E. Sweitzer, Minneapolis: I have wondered, in view of the modern therapy of syphilis and the high incidence of cardiovascular involvement that Dr. Jordon has reported, whether the intermittent treatment that so many patients still get is not responsible for this cardiovascular involvement.

One drug that has been almost dropped from the armamentarium of the therapy of syphilis and that is no longer emphasized, particularly for cardiovascular syphilis, is potassium iodide. It will be found that if these patients are given potassium iodide better results will be obtained than if only arsphenamine and bismuth are used.

Dr. James W. Jordon, Buffalo: Because of the time element I had to leave out many things which are included in the paper. I did not define very well what I meant by latent syphilis; when the term "latent syphilis" is used in this paper, it means that either the spinal fluid was not examined or if it was examined it was normal. Ninety-four of the 100 well treated patients had their spinal fluids examined, and they were normal. If we found any patient with asymptomatic syphilis and a spinal fluid positive for the disease, he was considered to have asymptomatic neurosyphilis. The cases of these patients were not included in the paper.

Dr. Udo J. Wile, Ann Arbor, Mich.: Were the examinations of the spinal fluid repeated in the beginning?

Dr. James W. Jordon: Many of the patients had more than one examination; many of the 69 poorly treated patients refused to have their spinal fluids examined. Examinations of the spinal fluid were made for 29 of the 69 poorly treated patients. Any of this group who had a positive spinal fluid were not included in this study, and any patient who did not have the spinal fluid examined and subsequently had neurosyphilis was likewise rejected from this study.

We were able to follow these patients over a period of years because one of the larger hospitals takes care of the medical and dental needs of a large proportion of the indigent people in Buffalo. They report back to the hospital or to the

clinics for numerous minor ailments, and each time they report they are referred back to the syphilologic department if there is a history or physical condition suggestive of syphilis.

There was 1 case of paresis; this case was included in the paper because at the time of the original examination an examination of the spinal fluid showed it to be normal. Fourteen years later, when paresis developed, the spinal fluid was strongly positive.

From this study it is apparent that we have been partial to the use of large amounts of bismuth in the treatment of latent syphilis. Our well treated patients received an average of seventy-eight injections of a heavy metal. We were surprised from our study to find that arsenicals seemed more effective than bismuth in the prevention of late complications. We have probably in the past overtreated patients with bismuth. Moore has expressed the belief that bismuth therapy has been overemphasized in the treatment of latent syphilis. It is interesting to note that Howe found that the amount of cellular infiltrate in the aortic wall of patients who died after having syphilis bore an inverse relationship to the amount of arsenical therapy the person had received. He found there was almost no relationship to the amount of bismuth. This confirms from the pathologic standpoint what we have observed from the clinical standpoint.

Regarding the use of iodides, very few if any of our patients receive iodide therapy. We have not used iodides routinely in our clinics in the treatment of syphilis.

PENICILLIN IN DERMATOLOGY

A Study of One Hundred and Seventy-Four Cases

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THE remarkable antibacterial properties and the relatively low toxicity of penicillin make it a logical agent to use against cutaneous pyogenic infections.

Penicillin, in local applications, was first used by Fleming as early as 1929.[1] Florey and Florey [2] stated: "In essence, the problem of using penicillin locally is that of devising some means to apply a very soluble and diffusible substance, so that a bacteriostatic concentration is constantly maintained at every point where there are infecting organisms." The local use of penicillin in the treatment of burns and scaldings was satisfactory with a freshly prepared cream of penicillin.[3] One of the earliest reports on the use of penicillin in dermatology was made by Roxburgh, Christie and Roxburgh.[4] They reported satisfactory results in cases of sycosis barbae, impetigo, blepharitis and also some cases of eczema with secondary infection. Sophian and Connolly [5] found topical applications of penicillin excellent in sycosis barbae and furunculosis. The selection of the proper base for the use of penicillin locally is a problem which has not yet been solved. A p_H of about 7 seems to be essential for the preservation of the activity.

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The ideal base is one which will bring the penicillin into contact with the bacteria and will maintain its potency for a reasonable period.

This report deals with a series of 174 patients with cutaneous diseases mostly pyogenic in origin, treated at an Army Air Force Regional Station Hospital. It includes both patients who were hospitalized and those treated at the outpatient clinic. All cases were closely supervised and followed for a period varying from three weeks to six months. In all cases reported only penicillin preparations were used, unless otherwise stated. Bacteriologic study of the cases, to determine the causative organism and its sensitivity to penicillin, was made whenever possible. Penicillin was applied locally in the great majority of the cases. In a few cases, in which a systemic effect was desired, 200,000 units was injected intramuscularly. The following penicillin preparations were used: (*a*) penicillin solution, 500 units per cubic centimeter; (*b*) penicillin in petrolatum and hydrous wool fat, 500 units per gram; (*c*) penicillin in water-soluble base, 500 units per gram;[6] (*d*) penicillin dissolved in equal parts of water in an emulsion base, 250 units per cubic centimeter. All preparations were kept in the refrigerator.

The selection of the preparation depended entirely on the stage of the eruption and on its location. In general, acute vesicular and extensive eruptions were treated with wet dressings or sprays of the solution; subacute and localized lesions were treated with emulsion and water-soluble ointment; chronic lesions were treated with the ointment containing petrolatum and hydrous wool fat. Lesions were cleaned by removing crusts and opening pustules before the applications of the penicillin preparation. For acute, extensive lesions the preparations were used five times a day. In more chronic stages the ointments were applied by massage three times a day.

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6. The water-soluble base was prepared as follows:

	Gm. or C.c.
White floating soap, powder	33
Distilled water	100
Cold cream (special)	267

The formula for the special cold cream is as follows:

	Gm. or C.c.
White wax	60
Spermaceti	60
Hydrous wool fat	25
Cottonseed oil	260
Sodium borate	5
Distilled water	95

The ointment was tested by the Food and Drug Administration, through the courtesy of Lieut. Col. J. R. Scholtz. It was found that three weeks after its preparation only 50 units of penicillin was present per gram. Therefore only freshly prepared ointment was used. The formula was originated by Sergeant Frank A. Olson, Pharmacist.

STUDY OF CASES

Staphylococcic Dermatitis.—Sycosis Vulgaris: In 16 cases, sycosis vulgaris was treated with local applications of penicillin. The duration of the disease prior to treatment varied from six weeks to eight years. In 3 instances, patients had previously received penicillin intramuscularly, without success. In most cases the disease was due to hemolytic and nonhemolytic Staphylococcus albus. In 6 cases the eruption improved steadily until cure; the average period required for cure was three weeks. The response in some cases was dramatic, with long-standing eruptions clearing up in three or four days. In 4 cases the lesions recurred when the treatment was discontinued, only to disappear when it was reapplied. When the application of penicillin lotion was continued for several weeks after apparent cure, no recurrences of this type were observed. In 1 case of several years' duration, a severe dermatitis developed when penicillin ointment was applied; so the treatment was discontinued. Circumstances beyond my control prevented a complete study of this case, in which the dermatitis may have been due to penicillin, to its impurities or to the ointment base. In 3 cases dermatitis due to hemolytic Staph. albus failed to respond to different preparations and different strengths of the drug. Thus the treatment was satisfactory in 10 cases and unsatisfactory in 6. In summary, it may be said that topical applications of penicillin deserve a place in the treatment of sycosis vulgaris. The stubborn resistance of this disease to treatment and its tendency to relapse are well known. Although not successful in every instance, penicillin has proved effective in cases in which other medicaments have failed.

Impetigo Contagiosa: In 22 cases impetigo contagiosa was treated with penicillin locally. The size of the eruptions varied from that of a dime to extensive lesions covering most of the face. In most cases the eruptions were due to hemolytic Staph. albus alone or associated with an alpha hemolytic streptococcus. In all cases, the patient was advised to remove the crusts with soap and water. Wet dressings and sprays were used for extensive eruptions. Lotions and ointments were prescribed for limited areas. The results were good. In all except 2 cases, the eruption cleared up rapidly in from three to seven days. The 2 failures were due to the fact that a dermatitis venenata developed in the patients.

Ecthyma: In 6 cases ecthyma of the lower extremities was treated with penicillin ointment. After the crusts were removed, the ointment was applied to the lesions by massage. Early epithelization of the lesions was noted in 5 cases. In 1 case a dermatitis venenata developed, and the treatment was discontinued.

Infectious Eczematoid Dermatitis: In 12 cases infectious eczematoid dermatitis was treated by local applications of penicillin. In 10 cases the improvement was rapid. In 1 case recovery was slow and followed by a relapse. In 1 case the disease failed to respond to therapy. In 3 cases the eruption began with scabies. In all cases the eruption was localized on the exposed parts, especially on the neck, on the sides of the face and on the ears. Staphylococcus aureus was isolated in 8 cases. The average period of hospitalization required was fifteen days. Two more weeks were needed for complete recovery. The treatment was begun with solutions and continued with ointments.

Folliculitis: In 14 cases of folliculitis of the extremities, the disease responded satisfactorily to treatment with penicillin. Two patients had previously received 100,000 units intramuscularly, without improvement. Staph. albus was obtained in cultures in 4 cases. In 2 cases folliculitis of the back of the neck failed to improve.

Hidradenitis Suppurativa: In 2 cases hidradenitis suppurativa of the axillas was treated with penicillin ointment. In 1 case the culture showed alpha hemolytic streptococci and hemolytic and nonhemolytic Staph. albus. In both cases improvement was noted after three weeks. Cure was noted in 1 of them after five weeks of treatment. In the other case there was a relapse. Local infiltration with penicillin solution improved the eruption.

Furunculosis: In 7 cases of furunculosis the disease was treated locally with penicillin lotion and ointment. Four of the patients also received penicillin intramuscularly. It was noted that early lesions often aborted when systemic treatment was administered; lesions presenting suppuration did not change. The continued use of penicillin lotion had a satisfactory effect in the prevention of reinoculations. In 1 case the lesions failed to respond to treatment.

Streptococcic Dermatitis: In some cases of this group the streptococcic infection was the primary cause of the disease. In others it produced a secondary infection of dermatitis of different causation.

Auricular and Postauricular Dermatitis: In 8 cases of auricular and postauricular dermatitis the response to treatment was satisfactory. Wet dressings and spray were used first, and penicillin lotion was prescribed later. In 2 cases the eruption relapsed when use of the preparation was discontinued, but the lesions disappeared when it was reapplied. When the patients were seen afterward they were instructed to continue the application of the lotion at least once a day for several weeks after clinical cure. In this way further relapses were avoided. The eruptions of all but 1 patient improved with the topical application of penicillin.

Dermatitis Repens: In 4 cases dermatitis repens was treated with penicillin ointment. In every instance there had been a history of minor scratches followed a few days later by redness and vesiculation of the margin of the wound. An irregular elevated, undermined epidermic border was always present. All lesions were located on the hands and prevented the patients from performing their duties. Penicillin ointment controlled the lesions in three to four days and completely cured them in ten days to two weeks.

Streptococcic Vesiculosquamous Dermatitis: The lesions of streptococcic vesiculosquamous dermatitis were suggestive of dermatophytosis, but on repeated microscopic examinations fungi were not observed. In 16 such cases in which the lesions were treated, 12 eruptions were located on the upper extremities, usually on the dorsa of the hands. Eight of them responded satisfactorily within ten days. In 4 cases the lesions were on the lower extremities, on the ankle or the dorsa of the feet. In only 2 cases did the eruption respond well after three weeks of treatment. In most cases the disease was chronic, and the ointment was prescribed. Nonhemolytic streptococci were found in those lesions. The variability of sensitivity of this organism to penicillin is already well known.

Secondarily Infected Dermatitis and Eczemas: Secondarily infected dermatitis and eczemas of different causations form a large part of the cases in which the eruption was treated in the course of this investigation. In most cases wet dressings, sprays and lotion were used. In 14 cases dermatitis venenata, due to gasoline, grease and strong ointments, was treated. In 10 of them the lesions cleared up well in a few days; in the others the improvement was slow, requiring up to two weeks of treatment. The secondary infection of dermatophytosis improved considerably in 5 cases out of 9. The original disease, however, persisted. In 3 cases dermatophytids failed to improve. In 1 case severe bullous lesions from which hemolytic streptococci were isolated responded well to therapy. The secon-

dary infection of atopic eczema was not controlled by penicillin in 3 cases. In 1 of them there was an exacerbation of the eruption. In 8 cases nummular eczema responded well to penicillin ointment. Not only was the secondary infection controlled but the original condition improved considerably in 6 of them. It is to be remembered that acceptance of the possibility of the parasitic origin of this disease has been advocated. In 3 cases there was a relapse, and the eruption required further treatment. Summarizing 48 cases of secondarily infected dermatitis and eczemas of different origin, satisfactory results were obtained following treatment of the disease in 24 of them. The results obtained point favorably to the use of penicillin locally to control secondary infection and thus prepare the eruption for further treatment. The drug cannot be expected to have any effect on the original disease, with the possible exception of nummular eczema.

Miscellaneous Diseases.—In 7 cases, acne vulgaris was treated with local applications of penicillin. Only in 1 case, in which the pyogenic factor was predominant, did the lesions improve. In 5 cases, seborrheic dermatitis was treated without improvement. In 1 case of erysipeloid of Rosenbach, a butcher was treated with 100,000 units of penicillin administered intramuscularly, after the eruption had failed to respond to sulfadiazine. The lesions cleared up entirely in four days. This favorable response to penicillin confirms previous experimental studies. In 4 cases, psoriasis failed to improve after three weeks' treatment.

REACTIONS

In 4 cases (2.9 per cent) a dermatitis venenata following the application of penicillin preparations developed. The lesions were vesicular and appeared about the area where the ointment was applied. In no case were systemic reactions noted. In 3 cases patch tests were performed with penicillin ointment and with the base after the dermatitis had disappeared. The results were consistently negative. This shows that either injury to the tissues or the mode of application of the ointment may have played a role in the production of the dermatitis. In all instances the application of penicillin ointment was discontinued.

SUMMARY AND CONCLUSIONS

In a total of 174 cases dermatologic diseases were treated with different topical preparations containing penicillin. Satisfactory results were obtained in cases of impetigo, sycosis vulgaris, infectious eczematoid dermatitis, streptococcic dermatitis, ecthyma, dermatitis repens and some cases of folliculitis and hidradenitis suppurativa. In half of the cases of secondarily infected dermatitis, improvement followed penicillin therapy. Nummular eczema responded well. Intramuscular administration of penicillin was associated with topical applications in cases of furunculosis. In 1 case, erysipeloid of Rosenbach was cured by the injection intramuscularly of 100,000 units of penicillin.

It is hoped that the satisfactory preliminary results reported will encourage further study of this subject. Indiscriminate use of penicillin locally should, however, be avoided. The recent experience

resulting from the abuse of local application of sulfonamide derivitives should be kept in mind.

Local penicillin therapy is still in its infancy. Much work has to be done before definite indications, contraindications and dosage are established. The ideal base is still to be found. The reactions, local and systemic, should be carefully studied. The problems of sensitivity to penicillin and the resistence of different organisms to it are of paramount importance. They require methodical, clinical and bacteriologic investigation. Until these problems are solved, it would be advisable to avoid the general use of penicillin in topical applications.

PRESERVATION OF VIRULENCE OF TREPONEMA PALLIDUM

Some Additional Laboratory Methods

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SAN FRANCISCO

SINCE Bertarelli [1] in 1907 discovered that rabbits could be successfully inoculated with Treponema pallidum the rabbit testicle has been the main source of the live virulent cultures used in experimental syphilis. Kolle and Schlossberger [2] in 1926 found that the white mouse also could be successfully inoculated with syphilis (symptomless infection?) and after a number of days (the incubation period varying for the different organs—e.g., lymph nodes, thirty days; spleen, fifty days and brain, one hundred and fifty days) these mouse tissues would produce a specific orchitis in about sixty days after injection into rabbit testicle.

During the past eighteen years laboratory strains of S. T. pallidum have been perpetuated in this manner, either by rabbit to rabbit or by rabbit to mouse and mouse to rabbit transfers. The presence of the S. T. pallidum in the various mouse organs (brain excepted) has been demonstrated by Levaditi, Vaisman and Schoen [3] and Vaisman [4] by the single section silver staining technic of Dieterle.

Turner [5a] in 1938 found that he could maintain the virulence of the S. T. pallidum in the frozen state (— 78 C.) for over a year. This was a notable discovery, as it made possible the immediate availability of virulent cultures.

The following experiments are based on the observations of Kolle and Schlossberger and Turner and consist of:

1. The direct mouse to mouse transfer of virulent mouse organs (without the use of an intervening host, such as the rabbit).

2. The behavior of syphilis-infected tissue (other than rabbit testicle) in the frozen state (— 78 C.).

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THE DIRECT MOUSE TO MOUSE TRANSFER OF VIRULENT MOUSE ORGANS

(a) Rabbit to Mouse Transfer.—Twelve white mice were inoculated subcutaneously with chancre grafts from rabbit testicle (Nichols' strain) on Aug. 1, 1941. Six months later, Feb. 3, 1942, 6 of these mice were killed, and their lymph nodes were pooled and emulsified (lymph node emulsion 1), as were also their spleens (spleen emulsion 1) and their brains (brain emulsion 1). Specimens of these three emulsions, although negative for S. T. pallidum on dark field examination, produced a specific orchitis in approximately sixty days after inoculation into rabbit testicle.

(b) Mouse to Mouse Transfers.—Lymph node emulsion 1 was injected subcutaneously into 12 mice on Feb. 3, 1942. Six mice were killed on August 25, and their lymph nodes were pooled and emulsified (lymph node emulsion 2), as were also their spleens and brains. All three emulsions were negative for the S. T. pallidum on dark field examinations, but all three produced a specific orchitis sixty days after inoculation into rabbit testicle.

Spleen emulsion 1 was injected subcutaneously into 12 mice on Feb. 3, 1942. Six mice were killed on August 25, and their spleens were pooled and emulsified (spleen emulsion 2), as were also their brains and lymph nodes. All three emulsions gave negative results following inoculation into rabbit testicle. The remaining mice in this group, inoculated February 3 with spleen emulsion, were killed on November 26, and their spleen, lymph nodes and brain were injected into rabbit testicle, again with negative results (spleen experiment concluded).

Brain emulsion 1 was injected subcutaneously into 12 mice, Feb. 3, 1942. Six were killed on August 25, and their brains were pooled and emulsified (brain emulsion 2), as were also their spleens and lymph nodes. All three emulsions gave negative results following inoculation into rabbit testicle. The remaining mice in this group, inoculated February 3 with brain emulsion, were killed on November 26, and their brain, lymph nodes and spleen were injected into rabbit testicle, again with negative results (brain experiment concluded).

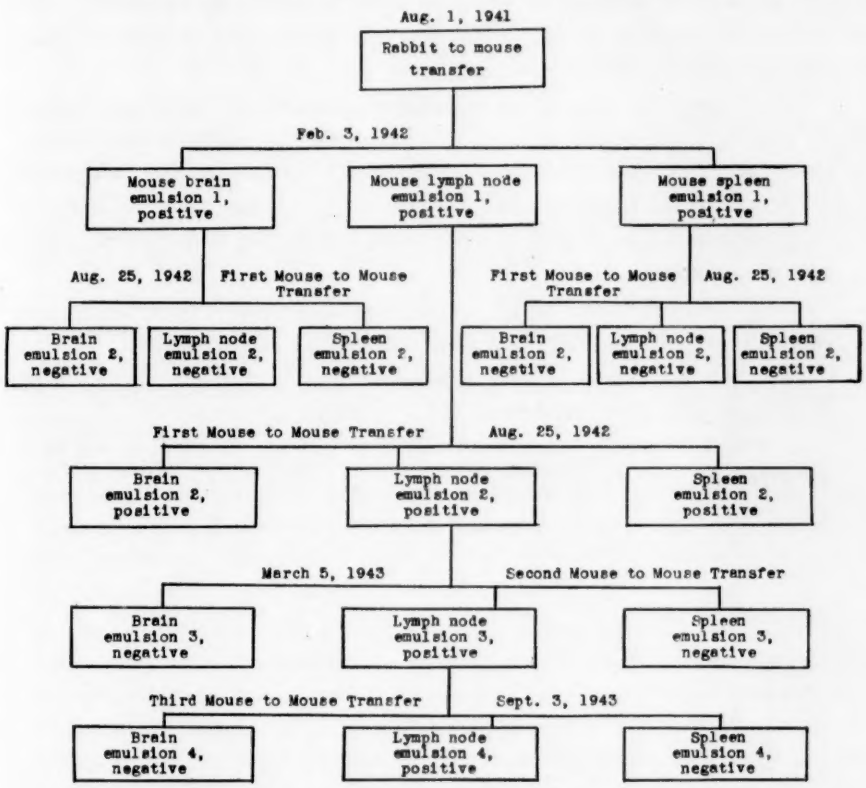
Lymph node emulsion 2 was injected subcutaneously into 12 mice Aug. 25, 1942. Six mice were killed on March 5, 1943, and their lymph nodes were pooled and emulsified (lymph node emulsion 3), as were also their spleens and brains. All three emulsions were negative for T. pallidum on dark field examination. On passage into rabbit testicle, the lymph node emulsion, however, was the only one that produced a specific orchitis.

Lymph node emulsion 3 was injected subcutaneously into 12 mice March 5, 1943. Six mice were killed on September 9, and their lymph nodes were pooled and emulsified (lymph node emulsion 4), as were

also their spleens and brains. All three emulsions were negative for T. pallidum on dark field examination. On passage into rabbit testicle, the lymph node emulsion again was the only one that produced a specific orchitis (chart).

THE BEHAVIOR OF INFECTED SYPHILITIC TISSUE (OTHER THAN RABBIT'S TESTICLE) IN THE FROZEN STATE (–78 C.).

The syphilitic tissue used in this experiment consisted of rabbit lymph nodes, mouse brain, mouse lymph nodes and mouse spleen.


Aug. 1, 1941
Rabbit to mouse transfer
Feb. 3, 1942
Mouse brain emulsion 1, positive
Mouse lymph node emulsion 1, positive
Mouse spleen emulsion 1, positive
Aug. 25, 1942
First Mouse to Mouse Transfer
First Mouse to Mouse Transfer
Aug. 25, 1942
Brain emulsion 2, negative
Lymph node emulsion 2, negative
Spleen emulsion 2, negative
Brain emulsion 2, negative
Lymph node emulsion 2, negative
Spleen emulsion 2, negative
First Mouse to Mouse Transfer
Aug. 25, 1942
Brain emulsion 2, positive
Lymph node emulsion 2, positive
Spleen emulsion 2, positive
March 5, 1943
Second Mouse to Mouse Transfer
Brain emulsion 3, negative
Lymph node emulsion 3, positive
Spleen emulsion 3, negative
Third Mouse to Mouse Transfer
Sept. 3, 1943
Brain emulsion 4, negative
Lymph node emulsion 4, positive
Spleen emulsion 4, negative

Results of transfer of virulent mouse organs.

Two different specimens of each were emulsified on May 11, 1942. (No T. pallidum was found in any of the emulsions, but all eight produced specific reactions on rabbit testicle sixty days after inoculation.) The emulsions were frozen after the method of Turner, placed in the refrigerator at a temperature of—78 C. and left for one year. All specimens were removed on June 20, 1943, and after quick thawing in the water bath at a temperature of 37 C. they were injected into rabbit testicle, with the following results: Both rabbit lymph node and mouse

brain specimens gave negative results. Seventy days after inoculation both mouse lymph node specimens caused small indurated nodules in which an occasional T. pallidum was found. Both mouse spleen specimens produced voluminous orchitic swellings (containing numerous spirochetes [T. pallidum]) sixty days after inoculation.

SUMMARY

1. (*a*) Brain, lymph nodes and spleen from mice infected with syphilis were transferred directly from mouse to mouse for three transfers without an intervening host, such as the rabbit, being used.

(*b*) The infectivity of all organs was ascertained at each transfer through inoculations into rabbit testicle.

(*c*) After the first direct transfer (in which the brain and spleen as well as the lymph nodes were infectious), the lymph nodes proved to be the only one of these three organs which maintained their virulence.

2. (*a*) Rabbit lymph nodes, mouse brain, mouse lymph nodes and mouse spleen infected with syphilis were frozen and kept at a temperature of —78° C.

(*b*) The infectivity of all organs was ascertained, both before and after the experiment, through inoculation into rabbit testicle.

(*c*) At the end of a year the rabbit lymph nodes and the mouse brain had lost their virulence. The virulence of mouse lymph nodes had been attenuated, but the infectivity of mouse spleen had not been impaired.

TEMPORARY UNILATERAL LOSS OF VISION ASSOCIATED WITH IODERMA

LIEUTENANT COMMANDER EUGENE A. HAND, MC-S, U.S.N.R.

IODIDES enter the body by ingestion, injection, inhalation, absorption from various body cavities and orifices where they have been introduced for therapeutic or diagnostic reasons and by absorption through the intact or broken skin by way of the pores.

The iodide ion replaces chlorine from various chlorine compounds. The displaced chlorine is then excreted. This is a reversible mechanism, since an increase of chlorine intake will by mass action free the iodine ions, which are then excreted. Bromine acts in a similar way by replacing chlorine and iodine and vice versa. This is the basis for the modern treatment of both iodism and bromism.

Iodides circulating in the system rapidly reach all the tissues and structures of the body. In the blood, iodides are chiefly found in the plasma, there being but small amounts in the blood corpuscles. The thyroid gland is the chief depot for iodides normally. Any increase in iodide intake causes a rapid increase in the iodide content of this gland. One part per million is the amount normally found in other parts of the body. Iodides easily pass through the choroid plexus to reach the cerebral spinal fluid and also pass through the placenta to reach the fetus in utero. They also pass through the ciliary blood vessels of the iris to reach the chambers of the eye.

Iodides are excreted mainly by the kidneys, but they are found in the excretions and secretions of most if not all the glands of the body. The amount normally excreted is infinitesimal, but an increase in intake will cause a rapid increase. This fact is easily demonstrated in the saliva, in the mucus of the mucous glands of the upper and lower parts of the respiratory tract, in the excretions and secretions of the gastro-intestinal tract, including the liver, in the sweat from the coil glands and in the sebum from the sebaceous glands of the skin. Iodism in nursing babies whose mothers are taking iodides for one reason or another demonstrates that iodides are easily secreted with the milk from the mammary glands.

The symptoms of iodism are traceable to a large extent to the irritative effects of iodine ions passing through the various glandular structures. The early prodromal symptoms, nasal congestion, nausea, anorexia, rhinorrhea, lacrimation and conjunctival congestion, are due

to this excretion of iodine ions through the glands of the respiratory and gastrointestinal tracts and also due to the irritative effect on the mucous membranes after excretion. Acneform eruptions are due in part to the irritative effect of iodides on the sebaceous glands, through the indirect effect on the glands of internal secretion such as the thyroid must also be considered.

Besides the common acneform eruption and the folliculitis from iodides, less common cutaneous manifestations are also seen. These range from simple erythema through papular, vesicular, pustular, bullous, fixed pigmentary, vegetative and purpuric types. Bullous ioderma was first described by O'Rielly [1] in 1854. Purpuric lesions were first described by Fournier [2] in 1877. In 1878 Adamkiewicz [3] demonstrated iodides in the contents of a bullous lesion.

Deaths from iodism have not been common since Mac Kenzie [4] reported death from a minute dose (2½ grains [0.16 Gm.]) of potassium iodide with purpuric lesions in 1879. Pusey [5] described fatal ioderma in a nursing baby from iodides from the mother's milk in 1911. Hollander and Fetterman [6] reported what they considered the eleventh fatal ioderma in the literature in 1936. Goldburgh and Baer [7] reported an anaphylactic death from diodrast, and iodine-containing urinary contrast medium in 1942 and noted at least 8 similar deaths reported in the American literature. Scadding [8] and others have reported deaths due to iodized poppyseed oil in bronchography. Cordray [9] expressed the belief that these fatalities were due to faulty preparation of the contrast medium in which the poppyseed oil was not completely saturated with iodine ions.

The exacerbation of the lesions of dermatitis herpetiformis following ingestion or injection of iodides is well known.

Iodine has been used in the treatment and prevention of goiter since Coindet introduced its use empirically in 1820. His later work proved that goiter is due to a deficiency of iodine in the soil and water of goitrous areas, resulting in deficiency of this important chemical in foods grown there. The addition of small amounts of iodine to table salt and cooking salt as a prophylaxis against goiter and cretinism has

1. O'Rielly, J.: New York M. Gaz. **5**:7, 1854.
2. Fournier, A.: Rev. mens. de méd. et chir. **1**:653, 1877.
3. Adamkiewicz, A.: Charité-Ann. **3**:381, 1878.
4. Mac Kenzie, S.: M. Times & Gaz. **1**:279 and 501, 1879.
5. Pusey, W. A.: J. Cutan. Dis. **29**:309, 1911.
6. Hollander, L., and Fetterman, G. H.: Fatal Ioderma, Arch. Dermat. & Syph. **34**:228 (Aug.) 1936.
7. Goldburgh, H. L., and Baer, S.: Death Following the Intravenous Administration of Diodrast, J. A. M. A. **118**:1051 (March 28) 1942.
8. Scadding, J. G.: Brit. M. J. **2**:1147, 1934.
9. Cordray, D.: Personal communication to the author.

been developed from this theory. Stubborn acne vulgaris as well as other forms of ioderma have been traced in whole or part to this use of iodized salt. No deaths have been proved to be due to this salt. In the case reported by Eller [10] fatal ioderma followed the unfortunate use of potassium iodide to treat an eruption which was later found to be due to iodized salt.

Mild to severe conjunctival irritation associated with ioderma and iodism is common. Lacrimation is one of the early signs of intolerance or excessive intake. Severer changes in the eye from this drug have seldom been described. Hallopeau [11] described iritis and conjunctivitis from iodides in 1888. Lewin [12] described retinal hemorrhages and bullous retinal lesions in 1929. Goldberg [13] reported iritis with hypopyon and associated synechia from iodides in 1939.

Bilateral atrophy of the optic nerve from pressure on the nerve associated with orbital edema from ioderma has been reported recently in the foreign literature. The dangers from the use of mercurial preparations near the eyes of patients taking iodides are well known. The formation of the extremely irritating mercuric iodide from the combining of the mercury and the iodine ions is the etiologic agent here. The purpose of this paper is to present a case of temporary complete unilateral loss of vision associated with bullous vegetative ioderma.

REPORT OF A CASE

Present Illness.—For several years a white Australian army private had been troubled with sciatica. He had received various treatments for this, both as a civilian and at various Australian army R. A. P. stations without relief, though he had been able to stay on duty. Late in April 1944, he was given potassium iodide grains (15 [0.97 Gm.], three times a day) for this sciatica. Soon afterward he began to notice nasal congestion, rhinorrhea and nausea followed by lacrimation and congestion of the conjunctivas of both eyes. This condition rapidly became worse, and on May 8, 1944 he was admitted to an Australian base hospital, where he was assigned to the ophthalmology department. A diagnosis of conjunctivitis was made. The vision in the right eye, which had been normal, began to fail rapidly at this time; the failure was believed to be due to iritis. He was seen in the dermatology department in consultation because of a vesiculopustular eruption.

Past History.—He had never had any trouble with his eyes in the past and had never worn glasses at any time.

Physical Examination.—Examination on May 10, 1944 revealed a poorly nourished white man of 49 who appeared at least that age. Scattered over the face, neck, arms and legs and scrotal areas, as well as in the axillas, were numerous

10. Eller, J. J., and Fox, E. C.: Fatal Iododerma, Arch. Dermat. & Syph. **24**:745 (Nov.) 1931.

11. Hallopeau, M.: Ann. de dermat. et syph. **2**:760, 1888.

12. Lewin, L.: Lehrbuch der Toxikologie, Berlin, G. Stilke, 1929, p. 106.

13. Goldberg, H. K.: Am. J. Ophth. **22**:65, 1939.

discrete and confluent follicular pustules and pyodermatous lesions. On the face, neck and groin were many vesicular and a few bullous lesions. A few vegetative lesions were noted in the groin and axillas.

The palpebral and bulbar conjunctivas were greatly injected and edematous, particularly in the right eye. The extraocular muscles were grossly normal. Examination of the right eye revealed a definite circumcorneal injection. This cornea was hazy and dull; the pupil was round and small and reacted sluggishly to light and in accommodation. The vision in the right eye was for moving objects only. The fundus could not be seen, and there were no synechias noted. Examination of the left eye revealed little of note, except conjunctival inflammation. The vision in this eye was 20/20, and the fundus was normal.

Laboratory Studies.—The Kline reaction of the blood was negative for syphilis. The urine revealed a trace of albumin with a positive reaction for iodides. The sedimentation test was 34 mm. in sixty minutes. The blood count was normal. No porphyrins could be demonstrated in the urine.

Patch Tests.—A patch test with 2.5 per cent tincture of iodine elicited a slightly positive reaction in twenty-four hours. The result of a passive transfer test was negative.

Course in Hospital.—Treatment was begun at once with 1 per cent solution of atropine sulfate to dilate the pupils, 5 per cent sodium chloride solution (50 cc. in water daily) intravenously and a decided increase in iodine-free table salt by mouth.

The vision in the right eye rapidly improved, as did the bilateral conjunctivitis, until after seven days the vision was normal in both eyes, being 20/20. The fundi were normal also at that time.

The skin improved slowly. The patient was discharged to a convalescent camp after thirty days, in excellent condition, except for a persistent weeping eczematoid eruption in the groin.

Subsequent History.—He was again admitted July 15, 1944, with a typical erysipelas of the nose and adjacent skin. This responded rapidly to sulfathiazole by mouth and compresses of solution of boric acid locally. Examination of the eyes at that time revealed essentially normal vision and no pathologic changes in either eye.

COMMENT

The rapid improvement in this patient and in Goldberg's patient after the cessation of the iodides points strongly to the pathogenesis in these cases being an irritative chemical iritis from the iodine ions being excreted through the blood vessels of the ciliary body into the anterior chamber of the eye. Knapp [14] stated the opinion that the difficulty in vision was due to keratitis and the sluggish reaction of the pupils was due to congestion of the vessels of the iris, which always accompanies a severe conjunctival congestion. This is not true iritis in his belief.

14. Knapp, A.: Personal communication to the author.

PSYCHOSOMATIC ASPECTS OF LUPUS ERYTHEMATOSUS

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FEW STUDIES have been completed on the psychosomatic implications of dermatologic disorders, especially those of a disfiguring nature. It is fairly obvious that cutaneous diseases have a definite socioeconomic significance. If the disease assumes the form of a mild reaction the social response is minimal, but if it is widespread and elicits a distinctly negative response akin to abhorrence the factor of social rejection plays a more determining role. Extremely disfiguring diseases of the face or the presenting part of the body, such as lupus vulgaris, leprosy and syphilis and cancers, are of more infrequent occurrence. It is true that deformities of the face and its appendages occur traumatically either in civilian or in military practice, but plastic surgery generally insures a modicum of repair, and with the use of artificial prosthetics to the disfigurements there can be imparted a high degree of social acceptability. There are, however, several chronic cutaneous diseases which in a definite social milieu will arouse expressions of disgust because of a close physical resemblance, according to the layman, to socially disapproved diseases such as syphilis. In this group may be included lupus erythematosus, a reputedly noninfectious disease of a chronic nature. The strictly dermatologic aspects of this disease will not be elaborated on. However, the psychologic aspects will be given more space. Following is the report of such a case.

REPORT OF A CASE

The patient, a veteran, had entered the service on Sept. 22, 1917. While at a training camp he noted a rash, the size of a quarter, which was elevated and covered with fine gray scales, on his right cheek. He experienced neither pain nor discomfort in that region, except for a mild itching. The hair in that area ceased to grow. The rash, which was reddish, continued to extend further. The man was sent overseas and spent some time in France. After his discharge from the Army, he received treatment for his cutaneous disease, but to no avail. During the subsequent years he was treated with a multitude of pastes and ointments and also with various types of radiation, without any improvement. The rash spread over both cheeks, reached as far as the chin anteriorly and

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gradually grew toward the inferior border of both eyes and toward the outer canthus of both eyes and the bridge of the nose. In 1928 he was treated with gold sodium thiosulfate, but only a slight betterment occurred. However, this form of therapy had to be interrupted because he exhibited toxic manifestations which made him lose weight. During the following years the lesions remained more or less stationary, except for occasional exacerbations; a psychologic exciting factor could not be elicited, and the complexion of the eruption changed only in relation to exposure to sun and wind. Sometimes after the patient had been outdoors the lesions appeared somewhat blanched. At the present time there are extensive erythematous lesions involving both sides of the face, including the chin, cheeks and lobes of the ears. They have progressed also below the mandible and involve the neck and the retroauricular and mastoid areas, where the lesions are nodular rather than macular and more discrete and have not coalesced completely. Posteriorly the rash displays a purplish red tinge, whereas more anteriorly there exists some desquamation of small whitish gray scales. The involved areas seem to be widely infiltrated. The nose, including the bridge, is free of any lesions. The lobes of the ears are also extensively involved with moderate desquamation. The lesions are not painful but are moderately pruritic. Facial movements are unhampered, and there is no distortion of the face, although it is actually disfigured. Examination did not disclose any disseminated lesion in any other part of the body referable to this chronic disease. There has never been any evidence of Libman-Sacks disease.

The patient's personal psychologic reaction to his disease has varied. At the onset, when he believed that the lesions were transitory, he disregarded them entirely and, inasmuch as he was essentially extrovert in his habits, he continued his usual social pursuits. But as time went on and the lesions became more extensive, he was more frequently exposed to the taunts and jibes of his friends and co-workers. Knowing that he had been in France and that he had visited Paris, they attributed his cutaneous disease to syphilis and made him aware of their suspicions. He attempted to disregard their insinuations, but he became more sensitive and gradually more seclusive. In pursuing his occupation as a ranch hand, even though working in relatively isolated areas, he had to contend with the prejudice and antagonism of the other men who lived in the close confines of the bunkhouse with him. The same washing utensils had to be shared, and the men were loath to use them with him. The sight of his face was frequently enough to influence a prospective employer to turn him down, and he was intermittently unemployed for that reason. He was also rebuffed socially, although most people liked him personally; the distasteful appearance of his face precluded his being invited by former friends. Women usually refused to have dates with him, and, as a result, his organ inferiority became accentuated. When he was fortunate enough to go out on a rare date, he was self conscious and ill at ease, and it generally climaxed in a moderately depressive state. He occasionally visited prostitutes, but they also had some qualms about accepting his favors. This sexual thwarting only intensified all his feelings of insecurity. As one treatment after the other proved unsuccessful and he realized that his disease would be chronic or perhaps permanent, he became bitter. Mildly paranoid ideas made their appearance, but his seclusive-

ness prevented him from giving vent to them often. He was eventually forced to attempt to set up a small cattle business for himself so that he could work independently of others and live alone. This permitted him to reduce his human associations and get along marginally. His feelings of inferiority persisted, and he continued to believe that people considered his disease filthy, infectious and disfiguring. He became lackadaisical in his attitude toward any therapy.

COMMENT

Not only do the appendages possess the attributes of the body image but the body surface itself—that is, the skin—plays a great role in the tridimensional self evaluation. Any alteration in the texture, continuity or color of the integument creates a dislocation in the preexisting pattern of the body image and may possibly serve as the focus of origin for a sense of inferiority or social insecurity. Inasmuch as society's demands for physical perfection are stringent, decided deviations from the norm established for a given locality or larger sphere of social influence may precipitate the reaction of not belonging. Every one is acquainted with the anxiety and despondency engendered during the storm and stress period of adolescence when a crop of ugly acne vulgaris pustules looms hatefully prior to a much coveted party. The social reaction to and the disapproval of the ubiquitous and frequent acne vulgaris lesion is too well known. The more mysterious and less known cutaneous diseases provoke more pronounced negativistic judgments. In other words, the integrity of the body image produces social acclamation and praise, whereas imperfections can culminate in criticism and rejection.

Bender,[1] who studied the influence of somatic diseases, especially those which distort the physical structure, on the genesis of psychoses found that the mechanism was dependent on "(1) the discrepancy between the constitutionally embedded and socially determined concept of the body image . . . and the actual physical personality or body structure determined by the pathologic process; (2) the mysteriousness and obscurity of the disease which is not understood by the patient and not experienced by him in any one but himself; (3) the thwarting of the adult social, industrial and heterosexual adaptations, which are the strivings that are patterned after the normal postural model but cannot be realized by the distorted body. . . ."

It is true that this report has not been dealing with a psychotic person, but the underlying mechanisms are the same. Lupus erythematosus has been considered a mysterious and etiologically unsolved disease, and one cannot but wonder that the patient should be overwhelmed by the rarity of the disease and the reasons for having been chosen by Mother Nature as the victim of an unusual biologic experiment. The

1. Bender, L.: Psychoses Associated with Somatic Diseases That Distort the Body Structure, Arch. Neurol. & Psychiat. **32**:1000 (Nov.) 1934.

chronicity of the manifestations also tended to dispel any hope of amelioration. This situation also perpetuated the thwarting of social, economic and heterosexual striving and produced a moderate depressive state, chronic feelings of inferiority and a desire to remain withdrawn and seclusive rather than to attempt to obtain satisfaction of the libido.

Bender [1] considered somatic disturbances in the musculoskeletal system which "cause an insult to the physical personality which the subject finds difficult to accept." Roth [2] has discussed the distortion of the body image which accompanies the presence of edema. He found that there existed a "tendency to reject and disown the edematous parts of the body . . . and to project onto others the responsibility for the disfigurement of the body. . . ." It is probable that disturbances which mar the external integument follow essentially the same psychopathologic pattern. In this connection it may be well to remark that Rome and Fogel [3] in their discussion on the psychosomatic manifestations of filariasis might have approached their problem from the point of view of the distortion of the body image, produced by the extraordinary enlargement of the the genitals in this disease. In an analysis of the psychopathologic symptomatology these authors mentioned that anxiety, personality contraction with guilt, neurasthenic symptoms, organ preoccupation, hypersensitivity, worry, incapacity for work and disturbances in the psychosexual sphere are some of the outstanding features of this disease. These were essentially the symptoms recognized in my patient, except that overt neurasthenic signs were not prominent and he did not suffer from impotence.

Woolhandler [4] in commenting on a case of alopecia universalis, found that the patient had been compelled to exist almost as a pariah in his barracks; he was ostracized by his fellow soldiers. The patient in question was intelligent and of pleasing disposition and made every attempt to maintain his morale at a high level. Significantly, he was sent to a psychiatrist for examination because "he always stays by himself and does not associate with the other men." For many years, unfortunately, my patient found himself in a similar predicament. Both the alopecic soldier and my patient were subjected to intimate living conditions and a lack of privacy.

The question of the influence of the soma on the psyche has been touched on, but there yet remains to discover whether the psyche affects

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2. Roth, N.: Psychoses in Patients with Edema, Am. J. Psychiat. **100**:397 (Nov.) 1943.

3. Rome, H. P., and Fogel, R. H.: The Psychosomatic Manifestations of Filariasis, J. A. M. A. **123**:944 (Dec. 11) 1943.

4. Woolhandler, N. W.: Dermatology in an Army Station Hospital, Arch. Dermat. & Syph. **49**:91 (Feb.) 1944.

the soma in lupus erythematosus. Relatively little work has hitherto been carried out on this problem, but there exists an excellent pioneer work in this field, reported by Greenhill and Finesinger.[5] They studied the effect of emotional factors in a series of patients with atopic dermatitis and used a series of 16 patients with lupus erythematosus as a control group. Both series of patients were subjected to a questionnaire and personal psychiatric interview. Various psychoneurotic symptoms and personality traits, such as neurotic symptoms in childhood; hysterical, anxiety, phobic, compulsive and obsessive symptoms; feelings of hostility; exhibitionistic and depressive tendencies; feelings of inadequacy; effects of emotional states on the skin, and other environmental and emotional situations, were investigated. They concluded that psychoneurotic symptoms were more prevalent in patients with atopic dermatitis than in those with lupus erythematosus and that phobic and compulsive-obsessive symptoms were commonest in both, although less decided in the patients with lupus erythematosus. They also found that unpleasant situations connected with family problems, illness, economic insecurity and trauma occurred oftener with exacerbations in the patients with lupus erythematosus. It must be admitted that depressive feelings, sensitivity, anxiety, feelings of inadequacy and hostility toward the family were present in the patients with lupus erythematosus but not nearly with the same percentage of occurrence as in those with atopic dermatitis. My patient was not cognizant of the effect of his emotional problems on his cutaneous lesions and never associated a flare-up with his difficulties of adjustment.

These considerations are practically important not only for the person who possesses an obnoxious cutaneous disease but also for the physician who must mitigate the effects of social disapproval by rational chemotherapy and solicitous psychotherapy. The economic future and the economic independence of the patient depend on his ability to cope with the feelings of inferiority and depression which are engendered. Many persons, all too conscious of their disturbed body image, are frequently inclined to shrink from social contacts and withdraw to an isolation in which they are not basically at home. This inclination must be vehemently counteracted to prevent them from magnifying the implications of their disabilities. Persuasion, verbal encouragement and enlightening talks, not too scientific and technical, on the nature of cutaneous diseases, will do much to dispel a pessimistic attitude. In severe cases more drastic psychotherapeutic measures will have to be adopted.

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5. Greenhill, M. H., and Finesinger, J. E.: Neurotic Symptoms and Emotional Factors in Atopic Dermatitis, Arch. Dermat. & Syph. **46**:187 (Aug.) 1942.

SUMMARY AND CONCLUSION

The psychosomatic implications of chronic lupus erythematosus are presented. It is stressed that a disfiguring cutaneous ailment may produce a disturbance in the pattern of the body image, which gives rise primarily to psychoneurotic symptoms, such as anxiety, depression, feelings of inferiority, particularly in the psychosexual sphere, and insecurity. Facial disfigurement has both economic and social implications, and various degrees of psychotherapy may be indicated to establish adequate adjustment for the patient.

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DELUSION OF PARASITOSIS

(Acarophobia)

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ACAROPHOBIA, parasitophobia and dermatophobia are terms employed by English-speaking dermatologists to designate a psychic state in which the patient believes that his skin is infested with some parasite. It has been loosely classified as an obsession, a phobia, a neurosis or a mania. Little attempt has been made by dermatologists or psychiatrists to define it further. The English dermatologic literature is singularly lacking in any observations on the subject. American dermatologists have contributed articles to the psychiatric literature dealing with the cutaneous psychoneuroses, among which the present subject is included.[1] The foreign literature contains a few noteworthy articles, one in German, by Ekbom,[2] being the most detailed. The disease is much commoner than the paucity of the literature would indicate.

This paper is intended to serve three purposes:

1. To present evidence to show that the term "acarophobia" is a misnomer, and to attempt to suggest a better name.

2. To outline the distinguishing features of the various abnormal mental states in which these symptoms may occur. This should be of interest to the dermatologist and should, perhaps, help him to make an approximate psychiatric diagnosis. This diagnosis would help him to decide on the proper disposition of the case and thus to minimize the disturbance that patients displaying these symptoms produce in an office routine.

3. To present a review of the literature together with a tabulation of 51 cases, including 6 previously unpublished ones of our own.

From the Department of Dermatology, Division of Medicine of the University of California.

1. (*a*) Eller, J. J.: Neurogenic and Psychogenic Disorders of the Skin, M. J. & Rec. **129**:675-679, 1929. (*b*) Klauder, J.: Cutaneous Neuroses, with Particular Reference to Psychotherapy, J. A. M. A. **85**:1683-1690 (Nov. 28) 1925; (*c*) Psychogenic Aspects of Skin Diseases, J. Nerv. & Ment. Dis. **84**:249-273, 1936.

2. Ekbom, K. A.: Der präsenile Dermatozoenwahn, Acta psychiat. et neurol. **3**:227-259, 1938.

TERMINOLOGY

In the "Standard Nomenclature of Disease" (American Medical Association, 1942, p. 508) the only name listed for this condition is "acarophobia." Both components of the term are inaccurate. The first root implies that the inciting parasite belongs to the zoologic order acarina or to its smaller subdivision, the family Acaridae. The second root, "phobia," implies "any persistent morbid dread or fear." These patients seldom attribute their disease to this limited group of parasites, and they do not have a fear of these organisms but are firmly convinced that they are already infested with them.

The entire range of commonly known mites and insects has been implicated at one time or another. Worms, bacteria and other "little black living objects" as well as fungi have been designated as the suspected cause of the disorder. The real or imaginary type of parasitic life selected by the patient often depends on the knowledge he possesses regarding parasites. The word "parasite," defined as a plant or animal which lives on or within another living organism, seems to cover all cases. The term "parasitosis," defined as "infestation with parasites," would be a satisfactory designation. The term "parasitism" is objected to because it has the additional meaning of "state of being parasitic." "Parasitosis" also parallels the common designations for other parasitic infestations of the skin, such as pediculosis and dermatophytosis.

Patients with this disease have no fear of becoming infested with parasites. They seldom display the hysteria and terror which the victims of true phobias exhibit. The term "phobia" is misapplied, as has been pointed out by Ekbom.[2] The designation "delusion," which is defined as "a false belief regarding the self," seems to describe the mental aberration observed in these patients. "Parasitosis delusion" would describe the condition, but this term makes use of two nouns, one Greek and the other Latin. Furthermore, the second word should be in the genitive case. "Delusion of parasitosis" overcomes the latter objection and is suggested as an appropriate name.

The term "delusion of parasitosis" is more applicable than "acarophobia." The designation suggested by Ekbom,[2] *Dermatozoenwahn* (delusion of animal life in the skin) is similar. He used the adjective *präsenil,* and although this term was applicable to his group of cases, the disease is not always limited to older patients. The proposed name is short and descriptive, is recognizable by foreign-speaking peoples and should be easily found in any alphabetic tabulation of medical literature. The material at present is under many headings with scarcely any 2 articles in the same alphabetic location.

"Delusion of parasitosis" is a symptom complex and not a disease entity, although it frequently may stand alone as the only recognizable abnormal element. It is not sharply delineated from other delusions

but merges imperceptibly with them. Weidner [3] cited a case, not included in our tabulation, in which the patient believed that the insects were all through her house, eating it up. She found small holes in the furniture and floors and enlarged them to dig out the parasites. She worked incessantly every day with chemicals at the task of destroying them. At no time, however, did these parasites ever trouble her own body. In case 8 in our table [4] the patient had a "worm in her stomach" in addition to her dermal delusion. Again, in other patients one finds the delusions of infection, for example, with syphilis, leprosy or tapeworms. Similarly, delusions exist covering the entire scale of which the human imagination is capable. It may seem unnecessary to deal at length in this communication with such an isolated bit of so large a problem, but delusion of parasitosis is the most interesting one to the dermatologist and some of the facts presented here may apply equally well to other delusions.

PSYCHIATRIC DIAGNOSIS AND CLASSIFICATION

The exact psychiatric diagnosis and classification of patients who exhibit the delusion of parasitosis are not of much concern to the dermatologist. However, a condensed discussion of this subject in the dermatologic literature should prove valuable in that it would afford a better understanding of the prognosis and the manner of disposal of such patients. Liberal use has been made of textbooks on psychiatry [5] and the pertinent literature has been reviewed.[6] An attempt has been made to eliminate controversial opinion in the interest of simplification and no doubt this has been carried out too completely from the psychiatrists' point of view. However, the following résumé should serve as an adequate guide to the dermatologist until the patient can be placed under appropriate psychiatric care. The classification employed here conforms to that of Kraepelin.[7]

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3. Weidner, H.: Beiträge zur Kasuistik des Ungezieferwahnes, München. med. Wcshnschr. **83**:1920-1921, 1936.

4. Giacardy, P.: Case of Familial Acarophobia, J. de méd. de Bordeaux **95**:479-480, 1923.

5. (*a*) Bleuler, E.: Textbook of Psychiatry, translated by A. A. Brill, New York, The Macmillan Company, 1942. (*b*) Braude, M.: The Principles and Practice of Clinical Psychiatry, Philadelphia, P. Blakiston's Son & Co., 1937. (*c*) Henderson, D. K., and Gillespie, R. D.: A Textbook of Psychiatry, ed. 2, London, Oxford University Press, 1930.

6. (*a*) Rothman, S.: Jucken und juckendene Hautkrankheiten, in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1930, vol. 14, pt. 1. (*b*) Sack, W. T.: Syche und Haut, ibid., 1933, vol. 4, pt. 2.

7. Kraepelin, E.: Psychiatrie, Leipzig, Johann Ambrosius Barth, 1915, vol. 4, pt. 8.

The delusion of parasitosis may occur in four psychiatric entities:

A. Toxic psychosis
B. Dementia precox, paranoid type
C. Involutional melancholia
D. Paranoia and paranoid conditions

Each of these will be discussed separately, with its diagnostic features, prognosis and treatment. The obsessional ideas of the psychoneurotic patient are not true delusions because the patient has sufficient insight to realize that the condition does not actually exist; nevertheless he feels compelled to react to it. Hence, the psychoneuroses and obsessive compulsive states are not included here.

A. Toxic Psychosis.—Under the stress of any severe acute or chronic physical illness or, in many instances, of drug intoxication, mental aberrations may occur. They may be anticipated in patients suffering from pneumonia, cardiac decompensation, cocainism and acute alcoholism. It is probable that delusions of parasitosis occur commonly in this group, if isolated statements by patients are given diagnostic credence. However, these delusions are not usually systematized or "fixed." The single delusion in which we are interested may occupy the patient's mind for only a short time, perhaps no longer than a few moments, after which some other fantasy succeeds it. Such cases, of course, do not find their way into the literature pertaining to this delusion.

There are only 3 cases in our table which apparently belong in this group. In case 6, the patient [8] exhibited the delusion of insects intermittently only for a few weeks while acutely ill with pulmonary tuberculosis. As his physical health improved under hospital care the delusion disappeared without psychiatric attention and did not recur, even though the patient again became ill and died of his pulmonary infection a year later. In case 40, after the patient's hypertension and cardiac decompensation had been treated for a few days, the pruritus disappeared and her belief in the "parasites" appeared to be much shaken. She returned five months later to report that she had not been bothered by "parasites" during that interval, but she was not yet entirely convinced that they were permanently gone. In this case involutional melancholia probably existed also as a predisposing factor. Case 47, to be detailed later, likewise belongs in this group.

The delusion in these cases is an isolated symptom of the underlying disease and is simply a fleeting incidental manifestation of little importance. It is apparent that the delusion itself seldom requires any therapy.

Patients in this group should be directed to appropriate and competent medical care. The dermatologist should search for causes

8. Myerson, A.: Two Cases of Acarophobia, Boston M. & S. J. **184**:635-638, 1921.

of pruritus and eliminate them. He should also furnish whatever information his specialty may yield contributory to the proper diagnosis of the toxic state. In addition, he should emphasize that although topical medication is permissible, it actually serves poorly and as a palliative only. He should guard the patient against the development of dermatitis through injudicious medication. Psychiatric assistance may be needed occasionally.

B. Dementia Precox (Schizophrenia).—Dementia precox usually becomes evident during adolescence or early adult life and is characterized by a slow, progressive deterioration of the entire personality. The paranoid type of dementia precox, which is the only one exhibiting the delusion of parasitosis, occurs comparatively later in life, frequently even after the age of 30. Few patients with dementia precox show the first signs of the delusion of parasitosis after the age of 40. Heredity plays an important part; in a large percentage of these patients there is a family history of mental illness. They progress slowly through shyness, sensitiveness, extreme consciousness of inferiority and hypochondriac preoccupation to actual invalidism, inactivity and depression and finally to delusions and hallucinations. Contributory and precipitating factors frequently are missing, but in some cases they are present as toxic or infectious illness, pregnancy, the puerperium, domestic and financial worries and love affairs. The most prominent feature is the emotional blunting or apathy. Physically, there is likely to be loss of weight and a general lowering of the physical health.

When a delusion of parasitosis appears within this psychiatric group it should occur in early middle age, should be accompanied with considerable family and personal past history of mental illness and should exhibit much additional mental aberration. It is impossible to estimate how frequently this delusion occurs in dementia precox. As in the toxic psychosis group, it constitutes only a small part of the total symptom complex and patients who exhibit the syndrome are rarely reported under the designation of delusion of parasitosis. It is difficult to classify many of the cases in our series because of the lack of details, but we consider that cases 4, 5, 14, 15, 34, 37 and 51 likely belong in this group.

The prognosis must be guarded; however, many patients do readjust themselves if their disease is recognized early and if they receive proper psychiatric therapy. Institutional care with occupational therapy is a beneficial adjunct to the psychiatrist's efforts. Insulin shock therapy may be helpful. These patients should have the benefit of proper advice and treatment for any actual disease of the skin that may be present. It should be emphasized, however, that this treatment is entirely irrelevant as far as the delusion is concerned, and that the latter condition should remain entirely in the hands of the "other specialist." For example,

acne vulgaris is sometimes a precipitating factor in dementia precox of predisposed adolescents, and if untreated it constitutes a barrier against readjustment.

C. Involutional Melancholia.—The climacteric, or involutional period, which must be traversed by women between 40 and 55 years of age and by men at a somewhat later age, brings mental as well as physical changes. The outstanding features of this period are fatigability, anxious depression, feelings of inadequacy and insomnia. These people appear frightened, restless and hopeless. They are correctly oriented, however, and their memory usually is good. They may exhibit considerable loss of weight.

Among the mental symptoms indecision, doubt, anxiety and fear may appear in any degree, and frequently a feeling of unreality develops. Actual nihilistic and hypochondriac delusions are often encountered. Even when not noticeable, the involutional period probably predisposes the patient toward mental aberration of this type. The attitudes acquired during this time may persist for many years and thus the period may apparently merge imperceptibly into senility without full recovery from this mental predisposition. Psychic factors, such as the illness or death of near relatives, financial worries or, more rarely, physical factors may precipitate a severer degree of the mental illness. A transient episode of actual pruritus may be transformed similarly into a delusion of parasitosis in a person so predisposed. If such a delusion is not vigorously attacked by appropriate psychiatric as well as medical measures soon after it originates, it tends to become "fixed." It is then likely to be permanent, since these patients have lost much of their adaptive capacity.

The psychiatric designation "involutional melancholia" probably includes a large percentage of cases of delusion of parasitosis in patients who have no hereditary taint and in whom no mental aberrations develop until they attain the age of 40 or more years. Again, because of lack of details in the case reports, it is difficult to classify the following cases accurately, but we consider cases 3, 16, 19, 28, 30, 35, 38, 39, 41 and 50 as probable examples of this syndrome.

The prognosis is poorer than in the first group but better than in dementia precox and the paranoid type to be discussed later. The present thought among psychiatrists is that electric shock therapy as recently developed will cure a fairly high percentage of patients in this classification and that it offers a much better prognosis than any other method of therapy previously employed.

The psychiatrist may succeed by giving the patient with mild delusions a better understanding of the development of the illness, in a general nonpsychoanalytic manner, thus lessening the effect of the disease. Case 43 is illustrative perhaps, in that the delusion apparently

had been eliminated by psychotherapy; yet, when the patient was seen some years later, she reported that the treatment had been very successful, as "the bugs had been much quieter ever since."

Psychiatric treatment is best accomplished in a hospital for mental patients, where there can be proper care of nutrition, protection against despondent suicidal tendencies, appropriate sedation, occupational therapy and regular observation by competent psychiatrists.

Since a transient pruritus may be a precipitating factor for the delusion, such a pruritus should be terminated, if at all possible, by appropriate dermatologic measures, and the delusion may then disappear. These patients are entitled to adequate routine search for parasites, to dermatologic diagnosis and to treatment of cutaneous lesions actually present.

Laboratory tests and consultations with appropriate specialists should be performed to discover or rule out possible internal causes of pruritus, such as diabetes, icterus, circulatory diseases, allergic manifestations and lymphoblastomas. Placing the patient under the care of the psychiatrist should not, however, be delayed while this is being done, as the time lost may allow the delusion to become firmly fixed.

D. Paranoia and Paranoid Conditions.—Paranoia is a rare and severe psychosis characterized by the insidious development of a permanent and unshakable delusional system, frequently very elaborate. If the patient's attention is shifted away from his delusions, however, he is likely to appear normal mentally. The delusions are predominantly of persecution or, less often, of the grandeur type and are frequently combined. The memory remains unimpaired. Men are affected in 70 per cent of cases. Alcoholism, syphilis, arteriosclerosis and senility may cause a condition resembling true paranoia, called a "paranoid condition" or "state." For purposes of this paper differentiation is unnecessary.

It is in this classification that a bizarrre solitary delusion, such as the delusion of parasitosis, may exist without any other obvious mental aberration. The delusion becomes well "fixed" and permanent unless recognized early and attacked vigorously. Even then the prognosis is extremely poor. Complete success in the therapy of well developed true paranoia has been claimed for only some half dozen cases in the entire psychiatric literature, and these are questioned by many authorities. The prognosis is perhaps slightly better in the paranoid states than in true paranoia.

The paranoid patient should be examined and treated for actual dermatologic entities, and a search should be made for syphilis as a possible etiologic agent. If syphilis is present the prognosis may be somewhat improved by adequate therapy. Beyond this there is nothing

whatever that the dermatologist can do for such a patient; it is useless for him to waste his time and the patient's finances in futile attempts to convince the patient that his "bugs" are a delusion. It is worse than useless to agree with the patient that they are a reality and to attempt to "cure" him. This simply serves to deepen the patient's own conviction of their reality if any room for further "fixation" still remains. Argument, persuasion, explanation and microscopic demonstrations to the patient of material brought in as "parasites" to prove its innocuous nature are always futile. It is sufficient to tell him that parasites have not been found by the usual dermatologic methods, that his condition is thus not included in that field and that no dermatologist will ever be able to help him. The interview should be short and final.

It is in cases of true paranoia that the greatest difficulty is encountered in inducing the patients to consult the psychiatrist, with slightly less difficulty in the cases of the paranoid state. The mere mention of the word "psychiatrist" will frequently cause the patient to consult another dermatologist. The better approach seems to be to state simply that he is to be referred to a "doctor who specializes in disorders of this sort." Thereafter, he should be steadfastly refused further dermatologic consultation. Such patients are potentially dangerous in many ways. They may acquire delusions of persecution directed toward the dermatologist if long association furnishes the opportunity. For a physician who is lacking in psychiatric training to encourage return visits from such patients is likely to do more harm than good.

The psychiatrist is even better able to realize that the possibility of a successful outcome through his efforts is unlikely and he too is usually reluctant to accept such patients. He will, however, care for those who have any apparent favorable signs and, after all, these are the only ones who can be helped. He should have an opportunity to examine the patient in each such instance and to decide whether or not to accept the case. When he does not accept a case he should be asked to terminate the interview permanently, without referring the patient back to the dermatologist for further disposal. His psychiatric training enables him to word his final remarks much better than could the average dermatologist when dealing with these volatile patients; thus, a vicious cycle may often be avoided. Among our cases we consider 45, 46, 48 and 49 as instances of true paranoia and 12, 13, 18, 31, 36, 42, 43 and 44 as arteriosclerotic or senile paranoid states.

REVIEW OF CASES IN THE LITERATURE

In utilizing the material assembled in this study, the age, sex and marital status of the patient, the duration of the delusion, the chief

presenting symptoms, the areas of the body affected, the type of parasite blamed by the patient for the disease and the results of treatment lend themselves to tabulation. They have been recorded in the accompanying table wherever the original report furnishes such information. This table has been adapted from that devised by Ekbom and has been augmented by the addition of many more cases. Any additional unusual or bizarre features not mentioned in the table but which are considered to be of sufficient interest are contained in the following case briefs and correspond by number to those in the table.

CASE 2.—The patient was feebleminded.[9]

CASE 3.—The patient was a timid, sad man who spoke very little. He stated that people moved away from him immediately because of his parasites.

CASE 4.—The patient acquired his delusion after an acutal episode of scabies among his own children.[10] The mites were described as located between the skin and flesh. The delusion lessened after two months of treatment but was again present two years later.

CASE 5.—The patient had vitiligo, and his delusion was limited to the areas lacking pigmentation. Wherever he went, he observed that people would begin to scratch and slap at the insects which jumped onto them from him.

CASE 6.—This patient also had vitiligo, but the delusion was not limited to the depigmented areas. The delusion was present only while he was acutely ill with tuberculosis and receded as his general health improved. He died of tuberculosis one and one-half years later, without again having the delusion.

CASES 7 and 8.—The patients were husband and wife. The husband was the first to believe that the infestation was present. He believed it to be scabies contracted from one of his neighbor's servants and thence transmitted to the children of his own employer, to his own 15 year old daughter, to himself and to his wife. All the others, whether or not they ever actually had the disease, were cured, but these 2 resisted all treatment.

CASE 11.—The patient spent a great deal of time catching her "insects" in the bed.[11] When she put them into water she could see them "wiggle"; so of course "they were alive."

CASE 12.—The patient spent many hours a day rubbing herself with bread crumbs to bring out the insects.

CASE 13.—The patient washed and brushed her dog for four days in succession and became "infested" herself with the dog fleas. The insects came about the middle of the day "like a swarm."

CASES 14 and 15.—The patients were maiden sisters. One sister became "infested" by sleeping in a bed which had been occupied by a man who had a rare tropical

9. Perrin, L.: Des nevrodermies parasitophobiques, Ann. de dermat. & syph. **7**:129, 1896.

10. Raecke: Ueber Hypochondrie, Allg. Ztschr. f. Psychiat. **59**:390, 1902.

11. Macnamara, E. D.: Note on Cutaneous and Visual Hallucinations in Chronic Hallucinatory Psychosis, Lancet **1**:807-808, 1928.

Cases of Delusion of Parasitosis from the Literature or Previously Unpublished

Case No.	Author	Sex	Age	Marital State	Menopause at Age	Duration, Years	Type of Sensation Complained of	Where Localized	Kind of Parasite Believed to Be Present	Condition When Last Seen
1	Perrin [9]	F	52	..	48	2	Pruritus, sticking	General, especially arms, under nails	Unusual kind of flea	.....
2	Perrin	F	47	..	..	½	.....	.....	Head lice	.....
3	Perrin	M	46	..	..	½	.....	.....	.....	.....
4	Raecke [10]	M	36	M	..	2	Pruritus	Back, arms, legs, genitalia	Scabies mites	Same
5	Myerson [8]	M	40	..	..	Several	Pruritus	Shoulders, back	Insects	Cured
6	Myerson	M	42	..	..	Few months	Biting, scratching	Generalized	Insects, large and small	Same
7	Giacardy [4]	M	40	M	..	2	Pruritus	Generalized	Itch mites	Same
8	Giacardy	F	35	M	..	2	Pruritus	Generalized	Itch mites	Same
9	Strandberg (cited by Ekbom [2])	F	55	..	..	Many weeks	Pruritus	.....	Parasites	.....
10	Grøn (cited by Ekbom [2])	F	65	..	..	1	Pruritus	Scalp, neck, back, breasts	Pigeon fleas	Same
11	Macnamara [11]	F	60	S	..	6	Movements under skin	Generalized	Black winged insects	Same
12	Macnamara	F	61	S	..	3	Irritation	Scalp and upper part of trunk	Insects, size of flea	Same
13	Macnamara	F	64	M	..	½	Irritation, crawling	Face	Dog fleas	Same
14	Macnamara	F	44	S	..	5	Clicking	Generalized	Small, black things	Same
15	Macnamara	F	42	S	..	4	Irritation, biting, burrowing	Generalized	Little insects	Same
16	Schwarz [12]	F	57	M	..	2	Pruritus	Fingers, toes	Poison and insects	Same
17	(Schwarz)	F	53	W	43	..	Pruritus	Generalized	Lice	Slightly better
18	Schwarz	F	59	M	..	1/12	Pruritus	Generalized	Various kinds of insects	Same
19	Schwarz	F	69	..	..	1	Creeping	Generalized	Little brown animals and bacteria	Better
20	Schwarz	F	30	..	..	3	Burning, pruritus	Nose, genitals and generalized	Little insects	Same
21	Eller [13]	M	32	..	..	..	Pruritus	Generalized, especially eyebrows and nostrils	Tiny bugs	Same
22	Mallet and Male [15]	F	56	M	..	1	Pruritus, sticking	Scalp, breast, back	Pubic lice	Same
23	Werther [14]	M	40	..	..	..	Pruritus	Generalized	Worms	Same

24	Werthr	M	50	..	..	Recent	Pruritus	Generalized	Insects	Cured
25	Wilhelmi [15]	F	Old	M	..	5	Pruritus, irritation	Generalized	Black, threadlike insects	Same
26	Wilhelmi	F	..	S	..	8	Pruritus	Scalp	Insects new to science	Same
27	Wilhelmi	M	..	..	..	2	Pruritus	Generalized, especially nose	Bacteria	Same
28	Wilhelmi	F	50	..	..	2	Pruritus	Generalized, pubic	Insects	Same
29	Wilhelmi	M	50	..	..	2	Pruritus, biting	Generalized, pubic	Insects	Cured
30	Klauder [1c]	F	50	M	..	Recent	Pruritus	Generalized	Chicken mites	Cured
31	Weidner [3]	M	..	..	..	5	Pruritus	Generalized	Dog fleas	Same
32	Weidner	F	50	M	..	..	Pruritus	Generalized, especially right leg	Dog fleas	Same
33	Weidner	F	..	..	..	..	Pruritus	Generalized	Little animals	Same
34	Weidner	M	..	..	..	..	Pruritus	Generalized, especially scalp	Insects	Same
35	Bleumel [16]	F	56	M	..	2	Pruritus	Generalized, especially scalp, pubis	Unusual itch mite or tick	Same
36	Bleumel	M	81	W	..	½	Aggravation only	Nails, eyebrows, face	Skin colored insects	Same
37	Bleumel	F	43	M	..	..	Pruritus	Shoulders and back	Bedbugs and lice	Worse
38	Ekbom [2]	F	50	M	46	½	Pruritus	Scalp, back, neck and ears	Little insects	Same
39	Ekbom	F	55	M	48	2	Pruritus	Scalp, mons veneris	Itch mites	Same
40	Ekbom	F	52	W	47	2	Sticking	Generalized, especially genitalia	Pubic lice	Better
41	Ekbom	F	56	M	47	1	Pruritus, biting, creeping	Generalized, especially scalp	Little animals	Same
42	Ekbom	F	58	M	54	1	Pruritus	Chin, scalp, back and arms	Worms	Same
43	Ekbom	F	73	M	50	2	Pruritus	Right scapular region	Bacilli	Better
44	Ekbom	F	58	..	43	¼	Creeping over skin	Generalized	Little "clothes mice"	Same
45	Ekbom	F	64	S	..	8	Creeping	Generalized	Worms	Same
46	Miller and Wilson	M	47	S	..	20	Pruritus, creeping	Generalized, especially face	Lice, new variety	Same
47	Miller and Wilson	F	66	S	..	1/12	Pruritus	Generalized, especially scalp	Itch mites	Same
48	Miller and Wilson	M	52	..	..	7/12	Pruritus	Back of neck	Insects new to science	Same
49	Miller and Wilson	F	51	M	..	½	Digging	Generalized, especially all orifices	Insects	Same
50	Miller and Wilson	F	46	M	..	1	Pruritus	Generalized, especially ears, vagina and rectum	Insects	Cured
51	Miller and Wilson	F	51	W	..	11	Pruritus	Generalized	Insects	Same

disease. When she rubbed her body she could hear the insects "clicking." They were tiny and black and looked like powder in the bed. The other sister did not become "infested" until a year later; she described the insects as "tiny black and white insects, as fine as dust, which sprang from the hair into the eyes, ears and nostrils." Both women kept their hair clipped.

CASE 16.—The patient had seen her insects with an ocular loupe and was certain of their existence. She stated that poison (as well as insects) was present under her skin. Opium improved her slightly.

CASE 18.—This patient stated that "thousands of tiny animals came out of the skin." They could be seen with a lens. The patient, as well as her mother and daughter, had migraine. She was hypertensive. Opium was given to her, and some improvement was noted. Later, however, she stated that even her husband could then see the insects.

CASE 19.—This patient no longer slept in a bed, but she lay on a clean cloth on a wooden bench because it was easier to keep it absolutely clean.[12] During her menopause she had had a depressive episode and had attempted suicide. A brother had a war psychosis, and a sister had committed suicide because she believed that she had uterine cancer.

CASE 22.—This patient apparently acquired new parasites from time to time, and they appeared first at the tips of her fingers.[13] Then they wandered over her body.

CASE 23.—The delusion in this patient was precipitated by the shock of an accident in which his sister lost her vision as the result of his negligence.[14]

CASE 24.—The delusion developed in this patient after an incident which occurred while he was in a steam bath. For some reason an attendant had sprayed the air, and the patient believed the spray was employed because insects were present. When the real reason for spraying the air was explained to him, he overcame the delusion.

CASE 26.—The patient had auditory hallucinations,[15] claiming she could hear the insects "knocking."

CASES 28 and 29.—The patients, man and wife, were both affected. The husband's delusion seemed to have been less well "fixed" than the wife's, as he later denied that he believed in the insects. These insects "spun webs." The wife claimed to have an entire brood under her shoulder blade.

CASE 30.—The patient's husband had cleaned out a chicken house, and one of the chickens was said to have been "mangy" and covered with mites. The husband brought the "mites" to her, and "now her children have become infested." She recovered after an analytic discussion of her symptoms.

CASE 31.—The insects always jumped on this patient each evening about one hour after he had eaten dinner. They were "light shy," and, although he could

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12. Schwarz, H.: Zirkumscripte Hypochondrien, Monatschr. f. Psychiat. u. Neurol. **72**:150-164, 1929.

13. Mallet, R., and Male, P.: Délire cenesthésique, Ann. méd.-psychol. **88**: (pt. 2); 198, 1930.

14. Werther, J.: Die neurotischen und hysterischen Dermatosen, Dermat. Wchnschr. **96**:461-470, 1933.

15. Wilhelmi, J.: Ungezieferwahn, Med. Welt **9**:351-352, 1935.

see them dimly in the dark, when he turned on the light they disappeared instantly. He had an elaborate theory to explain why the insects selected him as host. He reasoned that people have poisonous substances in their blood which keep insects away. These poisonous substances are probably derived from tobacco, alcohol, faulty diet, factory work with metals, oils and benzine and similar things. He himself, not having indulged in any of these for twenty-two years and having lived continually in the open air, had a fine, pure blood; hence, insects liked him just as they liked animals. He had had an injury to his right leg thirty-five years previously, and the insects concentrated on this leg ten times as much as on the other.

He also had auditory hallucinations, as he stated that he could hear the "little devils" saying: "Here he is, here he is. Come, come, we will warm ourselves, we will warm ourselves."

CASE 35.—This patient soaked her head in kerosene every night and morning.[16] She bathed her body at least once a day; after each bath her sister scraped her skin with a knife, and they carefully disposed of the scrapings by burning. She kept the pubic hair shaved and the entire abdomen covered with adhesive tape. She claimed her parasites differed from the common acarus of scabies by having male elements at one end and female at the other. She stated that her own mode of treatment had been somewhat successful, the parasites had recently all turned around in their burrows and now directed their backs toward the surface of the skin.

CASE 36.—A physician cauterized one of this patient's "lesions" and thereby drove the insects all over his body. They could not be seen because they were the color of the skin. When the patient pulled them off they left fine threads, at the end of which there was a tiny egg.

CASE 37.—This patient boiled the entire family wardrobe each night and all the bedclothes each morning. She insisted that the family bathe in gasoline daily and rub with sulfur and lard. She used a hand lens to pick "parasites" from the skin and examine them. She once attempted suicide when she became hysterical at the "sight of two parasites" on the tablecloth.

CASE 38.—This patient had syphilis at the age of 40 and received standard treatment for two years. She had had attacks of urticaria frequently over a period of a month and acquired the delusion of parasitosis during this time. She burned her skin with burning wood to kill the parasites. She claimed that the parasites were not visible until after burning. Her 21 year old daughter had dementia precox.

CASE 39.—This patient thought that her insects lived principally in her left ear and came out at night to run over her hair, eyes and breasts. They were described as "long and black with a large head."

CASE 40.—The patient had cardiac decompensation and hypertension. She stated that she had the "sort of insects one gets from running around with men," which she got "while making a frivolous woman's bed." Whenever she felt a "bite" she quickly dug out the insect with her finger nail. She had seen them plainly; they were white and varied from the size of a grain of sand to that of a flea, and they had a "sucker" at one end. After adequate medical treatment of her cardiac disorder she was not bothered by the insects but still was not certain that they had left her permanently.

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16. Bleumel, C. S.: The Troubled Mind, Baltimore, Williams & Wilkins Company, 1938, pp. 85-87.

CASE 41.—This patient had acquired syphilis at the age of 36 and had had five years of treatment. After each visit she was willing to admit that she might have been mistaken about seeing the insects, but she soon returned again with the same story as before.

CASE 42.—This patient had hypertension. In addition to the worms which she claimed were embedded deeply in the skin all over her body, she specifically pointed out a tiny nevus on the upper lip in which she stated there was a worm. She also claimed to have a worm in her stomach and could feel it "sucking."

CASE 43.—For many years this patient had pruritus limited to the right scapular region, where she had been struck by a man's fist twenty years previously. For the past year only, she had believed that she had parasites at that point. They were too small to see, and "bacteria would probably be a better name, as insects should be visible." After a course of therapy with phenobarbital she said "the insects were more peaceful but had not disappeared."

CASE 44.—This patient's parasites lived behind the stove during the day and she could never see them, but at night as soon as she had retired they crept into bed with her to warm themselves. They were so quick that as soon as she turned on the light they were gone. She believed they were "clothes mice," since they gnawed small round holes in the bedclothes. She stated that they "must be some sort of foreign mice to be so small." She had seen them twice; they were coal black and 3 to 4 cm. long. She often got out of bed and sat unclothed on a stool to obtain rest. She was placed in a sanatorium for six weeks, during which time she was not bothered by the insects. On her first return visit to her physician she was still "free," but on the second visit she reported that they had come back "one by one" and were "all back at that time."

CASE 45.—This disoriented and refractory patient had delusions of grandeur and persecution. She believed she was a princess and demanded a million kronor daily as damages for "false imprisonment." She said her persecutors had injected into her skin worms which they had obtained from a coffin.

REPORT OF OUR CASES

We present here an account of 6 cases which have come under our observation. These cases are also recorded in the table.

CASE 46.—A. C., a single white man aged 47, had been a ship's captain and had spent thirty years at sea. He complained of itching and creeping sensations which involved the face severely, but all other parts of the body had been affected at times. The disorder had begun twenty years previously with a crawling sensation about the genitals and perineal region. He believed pubic lice (Pediculus pubis [Phthirus]) to be present at that time but could never find them. He tried strong mercurial ointment, and within a day or so this medication had "driven them all over the body." One of them even got into his eye. Frequently during the past few years he had used a proprietary camphor-phenol compound which he rubbed all over the affected areas. "Five hours later the bugs came out" and he "could pick them off." He was never able to see them move or to see them at all until after this preparation was applied because they "were too deep in the

skin." He also tried tincture of larkspur, but this was not a "good remedy," as it seemed to "get the insects mad," and their "bites" became so severe that he was unable to "stand the pain." The insects were not transmissible, and to his knowledge no one acquired them from him. He had periods of comparative freedom as he learned that "when he didn't bother them they did not bother him."

He brought in a piece of gummed cellulose tape with at least a hundred "bugs" stuck between two layers. These were all bits of epithelial debris, bits of wool, crusts from healing lesions and blood clots.

His skin was clear except for a few excoriated areas and occasional dry scaling areas resulting from overmedication and bathing. Physical examination revealed essentially normal conditions.

He was shown pediculi, fleas and bedbugs for comparison with his "insects," but he insisted that his parasites were entirely different from any common varieties and that his was the first such case known to science. He thought that the insects might have been his own spermatozoa, repressed as a result of continence during long periods of time spent at sea.

He was referred to us from the psychiatry department at this hospital, where he had come to be studied for "epilepsy" of two years' duration. The story of attacks as he told it suggested a hysterical phenomenon rather than true epilepsy. He paced the floor all during the interview and became increasingly nervous as time passed.

CASE 47.—An unmarried white woman aged 66 was hospitalized after a moderately severe coronary occlusion. She was mildly edematous and slightly cyanotic. She exhibited several delusions, among which was the conviction that she had become infested with scabies from a patient in an adjoining bed. The areas affected by her pruritus, however, bore no resemblance to the usual distribution of scabies, as she complained especially of involvement of the face, scalp and legs. She could not see the insects; in fact, she could not "dig them out because they were too deep." The delusion was not constantly present; at intervals she believed that the insects had disappeared. One month after the episode began she died suddenly, probably from rupture of the myocardial infarct. The delusion had last been discussed on the morning of her death.

CASE 48.—V. B., a man aged 52, had been a scientist of some distinction in previous years and had written several creditable volumes on scientific subjects. Now he claimed to have discovered the explanation of numerous widely differing phenomena which appear utterly fantastic.

Seven months prior to his first visit to our office there developed on the back of his neck an eruption which he attributed to a hitherto undiscovered insect from Central America and for which he had coined a pseudoscientific name. This insect, he claimed, dropped from newly installed lights in the drafting room where he was working. He stated that a few years earlier he had a similar infestation which he thought was acquired from handling fresh fruit from Guatemala.

The back of his neck was covered with pea-sized to lima bean-sized crusted lesions. He constantly dug at the areas in an attempt to remove the "insects." He studied the material removed from the lesions under the microscope and presented a detailed drawing of the insect as well as an illustration of its copulation.

He brought suit against his former employers for compensation for the infestation. On one occasion he attempted to obtain work at a government agency, and his bizarre actions resulted in his being placed under arrest overnight.

Psychiatric consultation resulted in a diagnosis of paranoia, and the psychiatrist flatly stated that the condition was incurable.

CASE 49.—D. C., a woman aged 51, complained of insects digging into her skin for the previous four months. Her mouth, throat, eyes and nose were "full of them." Her eyes were almost closed because of edema resulting from her attempts to rub insects out of them. The rectum and vagina were also said to be "full of them."

She brought in a collection of lint from black clothing and bits of dried blood, which she believed to be insects. She had sterilized all her clothing and bedding numerous times. Her skin was dry and crenated from the use of sterilizing solutions. She gave away her curtains and rugs because repeated cleaning failed to remove the insects from them.

It was impossible to induce the patient to see a psychiatrist. Examination by an internist did not reveal anything of interest. Her husband is a mental and physical casualty from his attempts to cooperate with her search for a remedy which will destroy the insects. She is probably paranoid.

CASE 50.—F. K., a woman aged 46, had been troubled for one year with pruritus caused by "insects" in her skin. When first examined she was in bed, sleeping nude on newspapers to catch the parasites. Her ears, vagina and rectum were stuffed with toilet paper to keep the insects out. The legs of the bed were in pans of cresol solution. In spite of all these procedures she stated that the insects crawled up the walls to the ceiling and dropped onto her bed. Physical examination revealed nothing abnormal.

She was referred to a psychiatrist and was committed to an institution for mental diseases; she returned one year later apparently cured. The disease of this patient probably belongs in the involutional melancholia group, as she exhibited a greater fear reaction than is usual.

CASE 51.—J. H., a widow aged 51, is a person of higher than average intelligence. When first seen, eleven years previously, she exhibited a severe sulfur dermatitis following successful treatment for a presumptive attack of scabies. She returned seven months later with a new "attack"; this was due, she believed, to opening a chest brought from the Orient which, she thought, harbored some unusual insect. Many pieces of lint were examined microscopically, but no insects were found.

She apparently forgot the delusion for a time, but three years later she appeared with another "attack." There was another remission, which in turn was followed by another "attack" three years later, also soon remitting. However, two years ago she had another recurrence, which is still present and apparently "fixed."

She sees the insects jump from her daughter's face, and they come down in "droves" to feed on her blankets. She has had specimens examined by numerous physicians and parasitologists, but with negative results. Every month or two she brings in a new sample of lint, dried blood and similar things. Her skin is dry and crenated from the use of disinfectants. She spends her entire time from early morning to late at night cleaning, scrubbing and sterilizing her home. All available money is spent on cleaner's bills for clothing, bedding, curtains and similar items.

It has been impossible to induce her to consult a psychiatrist. Physical examination by an internist has not revealed anything of interest. She probably has long-standing dementia precox, paranoid type.

COMMENT

"Delusion of parasitosis," in our tabulated series of 51 cases, affected 15 men (29 per cent) and 36 women (71 per cent). Of 31 patients whose marital status is known, 20 (64 per cent) were married, 7 (23 per cent) were single and 4 (13 per cent) were widowed. Of 9 whose age at the menopause is known, in no instance did the delusion occur before it or simultaneously with its onset; the number of years between the development of the menopause and the appearance of the delusion varied from four to twenty-three. None of the patients exhibited the delusion before the age of 30; 4 were 30 to 39; 11 were 40 to 49; 20 were 50 to 59; 7 were 60 to 69, and 1 was in the eighth and 1 in the ninth decade. The duration varied from one month to twenty years, averaging two years and eight months.

The predominant symptom complained of was pruritus; this occurred in 35 patients (69 per cent). Creeping, crawling, movements, biting, scratching, sticking, digging, burning, clicking, irritation and simply aggravation were the other terms used. Some patients exhibited distinct localization of the disorder in previously injured areas or at the site of some other unrelated disease of the skin. The range in types of parasites encountered has been mentioned previously. Only 5 patients (10 per cent) were classed as cured, while the condition of 4 (8 per cent) was ameliorated and that of 42 (82 per cent) was unchanged. The period of observation in some cases was not mentioned or was too short for therapy to have been successful. The prognosis probably was considerably better than these figures indicate. Modern methods available to psychiatrists may be expected to improve the prognosis still further.

CONCLUSIONS

The term "delusion of parasitosis" is an improvement in nomenclature over "acarophobia."

"Delusion of parasitosis" is a symptom complex which may occur in the toxic psychoses, dementia precox (paranoid type), involutional melancholia and in paranoia-paranoid conditions.

The prognosis is best in the group with toxic psychosis and next best in the group with involutional melancholia, becomes poor in the group with dementia precox and is practically hopeless in the group with paranoia and the paranoid states.

An outline is presented to guide the dermatologist in handling and referring patients of this sort.

The psychiatrist occasionally—the dermatologist rarely—succeeds in curing these patients. The modern electric shock and insulin shock therapy employed by psychiatrists seems likely to improve the prognosis considerably in certain groups.

The case histories of 51 patients are tabulated and additional unusual features are briefed, mostly from the German literature.

Included in the table and by more detailed résumé are hitherto unpublished cases of our own.

Dr. Karl Bowman, professor of psychiatry at the University of California Medical School, read and corrected this manuscript in its psychiatric phases.

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ERYSIPELOID: SUCCESSFUL TREATMENT WITH PENICILLIN

Report of a Case

MAJOR LESLIE NICHOLAS *
MEDICAL CORPS, ARMY OF THE UNITED STATES

THE BEST treatment of erysipeloid is debatable. Klauder [1] stated "that it is difficult to evaluate different methods of treatment, since in many cases erysipeloid apparently runs a self-limited course and splinting the hand may be the only required treatment." In an experimental study, Klauder and Rule [2] reported a survival of 12.5 per cent of mice treated with a sulfonamide compound after inoculation with Erysipelothrix rhusiopathiae; this is surely a limited therapeutic effect of sulfanilamide, sulfapyridine, sulfathiazole and sulfadiazine. They also reported that sulfonamide compounds were ineffective in the treatment of patients with erysipeloid.

The opposite view has been expressed by other authors. Schoch and Shelmire [3] and Eckstein [4] reported success with sulfanilamide; Kulchar and Rosenberg [5] cured erysipeloid with sulfathiazole. In the septicemic form with endocarditis, neither sulfanilamide [6] nor sulfathiazole [7] proved to be effective therapeutic agents.

The use of anti-erysipelothrix-rhusiopathiae serum was recommended by Klauder [2] as the treatment of choice for severe forms of erysipeloid, but he [1] warned against its use in the commonly encountered type of

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1. Klauder, J. V.: Erysipeloid as an Occupational Disease, J. A. M. A. **111**:1345-1348 (Oct. 8) 1938.

2. Klauder, J. V., and Rule, A. M.: Sulfonamide Compounds in Treatment of Erysipelothrix Rhusiopathiae Infections, Arch. Dermat. & Syph. **49**:27-32 (Jan.) 1944.

3. Schoch, A. G., and Shelmire, B.: Erysipeloid of Rosenbach Successfully Treated with Sulfanilamide, Arch. Dermat. & Syph. **41**:570-571 (March) 1940.

4. Eckstein, A. W.: Erysipeloid: Report of Case Treated with X-Ray and Sulfanilamide, Rhode Island M. J. **24**:41-45 (March) 1941.

5. Kulchar, G. V., and Rosenberg, E.: Sulfathiazole in the Treatment of Erysipeloid, Arch. Dermat. & Syph. **43**:846-847 (May) 1941.

6. Russell, W. O., and Lamb, M. E.: Erysipelothrix Endocarditis: A Complication of Erysipeloid, J. A. M. A. **114**:1045-1050 (March 23) 1940.

7. Klauder, J. V.; Kramer, D. W., and Nicholas, L.: Erysipelothrix Rhusiopathiae Septicemia: Diagnosis and Treatment; Report of Fatal Case of Erysipeloid, J. A. M. A. **122**:938-943 (July 31) 1943.

erysipeloid because of serum reactions. More recently excellent therapeutic results were reported by Griswold and Bowen,[8] who treated 15 patients with erysipeloid by the local application of solid carbon dioxide.

Since its introduction, penicillin has been tested against most of the recognized pathogenic organisms. Heilman and Herrell[9] experimentally infected 80 mice with Ery. rhusiopathiae; of the 40 mice treated with penicillin, only 2 died, a mortality rate of 5 per cent; all the 40 untreated mice died.

REPORT OF CASE

A 23 year old white soldier, a staff sergeant in the Army of the United States, was admitted to the Army Air Forces Regional Station Hospital, Hunter Field, Ga., on Sept. 22, 1945. He stated that on September 11, while on furlough, he was crabbing on Lake Pontchartrain, New Orleans, and was bitten on the right thumb by a salt water crab. To effect its removal, the crab's claw had to be broken. No medical treatment was sought. Three days later, on September 14, the right thumb became swollen, red and tender, and movement of the thumb became painful and limited. He bathed his hand in a hot solution of magnesium sulfate and applied a linseed poultice, without benefit. The involvement slowly spread to the dorsum of the hand and the thenar eminence. The man said that he had no elevation of temperature, chill, anorexia or other systemic reaction.

Examination of the right thumb revealed an intense swelling and a diffuse cyanotic erythema. On the radial side of the proximal phalanx was a healing laceration 8 mm. in length. The radial third of the dorsum of the hand and the thenar eminence presented several purplish red, irregularly shaped, slightly elevated plaques, measuring 1 to 1.5 cm. in diameter. There was no evidence of suppuration or lymphangitis. In the right axilla a solitary lymph node, about 2 cm. in its longest diameter, was palpable; in the left axilla a smaller node, 0.8 cm., was felt. The remainder of the physical examination revealed no abnormalities.

Reaction to the Kahn test was negative. The urine was normal. The blood count was 4,370,000 erythrocytes, 15.7 Gm. of hemoglobin and 4,750 leukocytes with 58 per cent neutrophils, 40 per cent lymphocytes and 2 per cent eosinophils. The blood sedimentation rate (Cutler method) was 14 mm. for sixty minutes. A roentgenographic study on the patient's admission to the hospital showed a swelling of the soft tissues of the thumb. There was no evidence of osteomyelitis, necrosis of the bone or periostitis as reported by me[7] previously. On culture the peripheral blood was sterile after ten days' incubation.

With the area under infiltration anesthesia with 4 per cent solution of procaine hydrochloride, a bit of tissue was removed from the dorsum of the base of the thumb with a no. 2 Keyes biopsy punch. This specimen was streaked on blood agar plates and Bacto-Sabouraud dextrose agar[10] and was cultured in Bacto-Tryptose phosphate broth,[10] both plain and that enriched by the addition of

8. Griswold, C. M., and Bowen, S. S.: Treatment of Erysipeloid by Cryotherapy, Arch. Dermat. & Syph. **49**:348-350 (May) 1944.

9. Heilman, F. R., and Herrell, W. E.: Penicillin in the Treatment of Experimental Infections Due to Erysipelothrix Rhusiopathiae, Proc. Staff Meet., Mayo Clin. **19**:340-345 (June 28) 1944.

10. Manual of Dehydrated Culture Media and Reagents, ed. 7, Detroit, Mich., Difco Laboratories, 1943.

0.1 cc. of sheep cells for every 5 cc. of broth. None of the mediums showed any growth after seventeen days' observation.

No local treatment was prescribed; a splint was not applied, and the patient was not cautioned about active or passive movements of the involved digit.

The intramuscular administration of 25,000 units (Oxford) of sodium penicillin every three hours was instituted immediately after the initial laboratory specimens were obtained. At the time of the third injection, six hours after penicillin therapy was commenced, the patient reported complete loss of the feeling of tension in the involved finger, return of normal flexion and extension and less erythema. After twenty-four hours of therapy (200,000 units of penicillin) the rash was definitely less intense in color; after forty-eight hours numerous normal foci appeared in the formerly confluent involvement of the thumb, while several of the satellite plaques on the dorsum of the hand and on the thenar eminence had completely disappeared. After a total of 800,000 units of penicillin was administered, the entire rash disappeared and the patient was discharged to full duty on September 26.

On September 29 the soldier returned to the dermatologic clinic for a follow-up visit. He had no complaints; the right thumb was desquamating but otherwise was normal. The lymph node in the right axilla was now equal in size to that in the left. On October 6 there was no evidence of former disease; the blood count was normal; the blood sedimentation rate was 5 mm. for sixty minutes, and the roentgenogram revealed nothing abnormal.

The treatment of erysipeloid as described in this paper has certain features that deserve comment. The treatment consisted of intramuscular administration of penicillin alone and no local measures which might account for the cure. Repeated intramuscular injections of penicillin require hospitalization which is not a factor in the army but is an important economic feature in civilian practice. Perhaps this objection will be overcome by penicillin administered orally or by change of dosage. In future cases the optimum dosage should be determined; with the complete subsidence of symptoms after 50,000 units of penicillin, I believe that erysipeloid might respond to fewer but larger injections. In this way the treatment may become an office procedure.

It is believed that the failure to culture Ery. rhusiopathiae from the tissue excised from the lesion does not detract from the validity of the case; both the anamnesis and the eruption were typical of erysipeloid.

Clinical Notes

LEUKONYCHIA STRIATA SEMILUNARIS

OSWALDO G. COSTA, M.D., BELLO HORIZONTE, BRAZIL
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Ungual achromia is met with in spots or striae either transverse or longitudinal, and sometimes it covers the whole ungual surface.

Spotted and striated leukonychias are common, being characterized by white spots or striae on the nail. Total leukonychia is rare according to Eller and Anderson.[1] In Pardo-Castello's [2] book three more cases are mentioned, 1 reported by Fox,[3] 1 by Stubenbord and Stubenbord [4] and the third by Pardo-Castello himself.

Both partial and total leukonychia may be the result of a diffusion of the lunula. According to Pardo-Castello [2] diffusion of the lunula is common in leprosy and in other dystrophic conditions of the extremities. Greco [5] cited a case in which diffusion of the lunula took place in consequence of therapeutic applications to the ungual matrix. Referring to total leukonychia, Eller and Anderson [1] attributed it to a functional disturbance of the nail matrix producing abnormal keratin formation. This functional disturbance may be due to traumatism, debility, infectious diseases, poisons or neuroses, though in some cases none of these factors can be incriminated. Referring to the causal factors of total leukonychia, Stubenbord and Stubenbord [4] affirmed that "the exact etiologic factor is not known, but generally the disorder has occurred in association with conditions such as typhoid, anemia, chronic arthritis with rheumatic endocarditis, measles, multiple neuritis, febrile diseases associated with malnutrition, trophic disorders and trauma."

In my case, by surveying the information given by the patient, the conclusion was arrived at that the lunulae of all the fingers were displaced, retaining clearly their semilunar form and milky color. The displacement of the lunulae took place from the root of the nails toward their respective free edges and occurred slowly, accompanying the growth of the ungual layer. At the same time there was observed a formation of new lunulae at the root of nearly all the nails. Between the displaced lunula and the ungual layer there was a depression shaped like a slight transverse furrow (line of Beau).

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1. Eller, J. J., and Anderson, N. P.: Leuconychia Totalis, M. J. & Rec. **127:** 318-319 (March 21) 1928.

2. Pardo-Castello, V.: Diseases of the Nails, ed. 2, Springfield, Ill., Charles C Thomas, Publisher, 1941, p. 87.

3. Fox, H., cited by Pardo-Castello.[2]

4. Stubenbord, J. G., and Stubenbord, W. D.: Leukonychia Totalis, Arch. Dermat. & Syph. **32:**761-763 (Nov.) 1935.

5. Greco, N. V.: Doble lúnula ungueal temporaria, Semana méd. **1:**1718-1720 (June 13) 1935.

A few months previously my patient had had measles and was suffering from anemia due to verminosis.

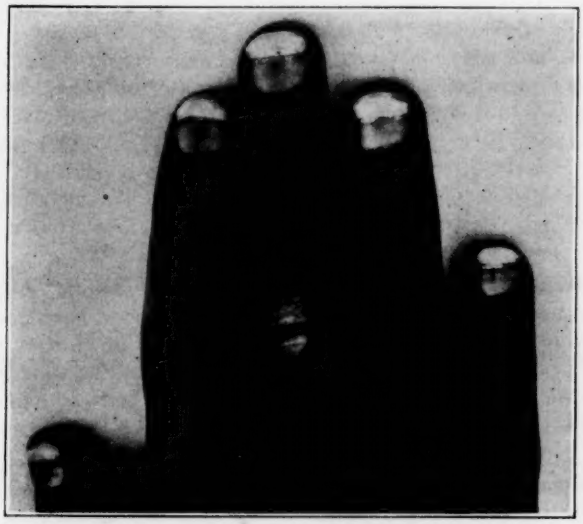
As has been said, Stubenbord and Stubenbord [4] included measles and malnutrition in the causes of leukonychia.

In the case of my patient it can be deduced that both the measles and the anemia, together or separately, exercised a predominating action as agents determining the diffusion of the lunulae.

REPORT OF A CASE

The patient, A. V. T., aged 18, was a Brazilian farm worker, residing at Barra do Cuieté, (State of Minas Geraes).

The family history revealed nothing of interest; according to his personal history the patient had had verminosis and secondary anemia. He had measles four months before he consulted me. The patient stated that he had not suffered previous traumatism.



Leukonychia striata semilunaris.

The patient said that about four months previously there appeared at the base of his nails dead white spots which in course of time spread toward the free edges.

Physical examination showed nothing abnormal except verminosis and secondary anemia.

Dermatologic Examination.—It was noticed that the whole of the anterior half of each finger nail of each hand was completely achromic. Some nails had lunulae; others did not. Between the achromic and the healthy regions of the nails there were slight transverse depressions.

Laboratory Examination.—The Kahn reaction was negative. The stools contained Ascaris lumbricoides.

SUMMARY

A case is reported of leukonychia striata semilunaris due to diffusion of the lunulae of all the finger nails in a mulatto suffering from verminotic anemia and who had suffered from measles four months previously.

Rua Ceará, 1691.

RATIONAL PHARMACEUTIC TREATMENT OF DISEASES OF THE SKIN

Keratoplastic Chemicals Become Keratolytic When Prescribed in Fatty Vehicles of High Water Content

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The introduction of high water content vehicles for active ingredients intended for application to the skin in health and in disease requires a revision of ideas as to prescription writing. In former days, salicylic acid, for example, was prescribed in a fat and a fatlike vehicle of hydrous wool fat, petrolatum, theobroma oil, lard, prepared suet or goose grease. These were solid bases. The powdered salicylic acid was dispersed through the art of pharmacy. If the salicylic acid particles were considered as black pawns, an ointment of 10 per cent salicylic acid could be considered as 1 black pawn set among 9 white ones, representing the fat and fatlike ingredients of the vehicle. If the covered skin were then the checkerboard, 1 square in 10 would have salicylic acid; 9 squares in 10 would be covered by grease.

Today, the prescribing physician tends to write for trade name vehicles. He ignores or forgets or is not told the solid content of the vehicle he prescribed. Let it be assumed that the trade-named vehicle has 50 per cent water content. A prescription for 10 parts of salicylic acid in 90 parts of the trade vehicle becomes, in effect, 10 parts of salicylic acid in 45 parts of fat and fatlike solids. Continuing the analogy of black and white pawns on a checkerboard, 2 squares are covered by salicylic acid to 9 covered by the vehicle, since the water evaporates on application and exposure.

Some trade vehicles offered as substitutes for fat and fatlike wool fat, petrolatum, theobroma oil, lard, prepared suet and goose grease have no more than 10 parts of solids to 90 parts of fluid content. A prescription of 10 per cent of salicylic acid in such a vehicle becomes, in effect, a 50 per cent salicylic ointment, as the 10 parts of salicylic acid are matched against 10 parts of combined solids. Half the squares of the checkerboard area are covered by the salicylic acid, rather than 1 in 10 as the prescriber may have intended.

Another example may help. Chrysarobin is prescribed in a medium of chloroform. Review of suggested prescriptions in textbooks, examination of actual prescriptions in pharmacy practice and discussion at staff meetings and on rounds of wards disclose great variation in the percentage of chrysarobin ordered. The evaporation of the chloroform from the skin at the time of application levels all distinction as to percentage of chrysarobin. The film on the skin is 100 per cent chrysarobin.

The knowledge of reduction and oxidation has changed considerably since the late Paul Unna propounded his theories of high and low concentration of the reducing chemicals on the skin with epidermis intact and corium exposed. In practice, the ideas advanced by Unna are still applicable. Hence a prescribing physician seeking keratoplastic activity of salicylic acid in less than 6 per cent concentration writes for this active reducing agency as follows:

	Gm. or Cc.
Salicylic acid	4
Zinc oxide	25
Starch	25
Petrolatum, enough to make	100

To utilize trade vehicles, the prescribing physician, still seeking keratoplastic activity of salicylic acid in less than 6 per cent concentration, writes for this active reducing agency as follows:

	Gm. or Cc.
Salicylic acid	4
Zinc oxide	25
Starch	25
Trade vehicle, enough to make	100

The salicylic acid has automatically been increased in concentration from the keratoplastic less than 6 per cent to the keratolytic greater than 6 per cent because the trade vehicle, containing much water, is only partly solid. The effect on the skin is exactly opposite that sought by the prescribing physician.

SUMMARY

Untoward effects from a prescribed low concentration of active reducing agency chemicals (keratoplastic) may be the result of unwitting application of a high concentration of active reducing agency chemicals (keratolytic) in trade vehicles of high fluid content. Prescription writing in dermatologic practice requires consideration of this factor to attain the end results sought by the physician. The composition of each trade vehicle, particularly its content of solid, nonevaporating ingredients, must be known. The quantity of active reducing agency of the chemical ingredient must be compared with the total solid content of the finished preparation on the skin to judge properly the effect so far as keratoplastic or keratolytic action is concerned.

CUTANEOUS IRIDIFORM GANGRENE DUE TO A CHEMICAL AGENT

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The variety of gangrene here reported on is not of great interest in regard to causation. But my interest was aroused by its clinical form which I believe has never been recorded before, as I have found no case similar to mine in medical literature. The name, cutaneous iridiform gangrene, chosen by me was based on similarity between the iridiform lesions of the syphilis found in Negroes and the arrangement of my patient's lesion in concentric and excentric circles.

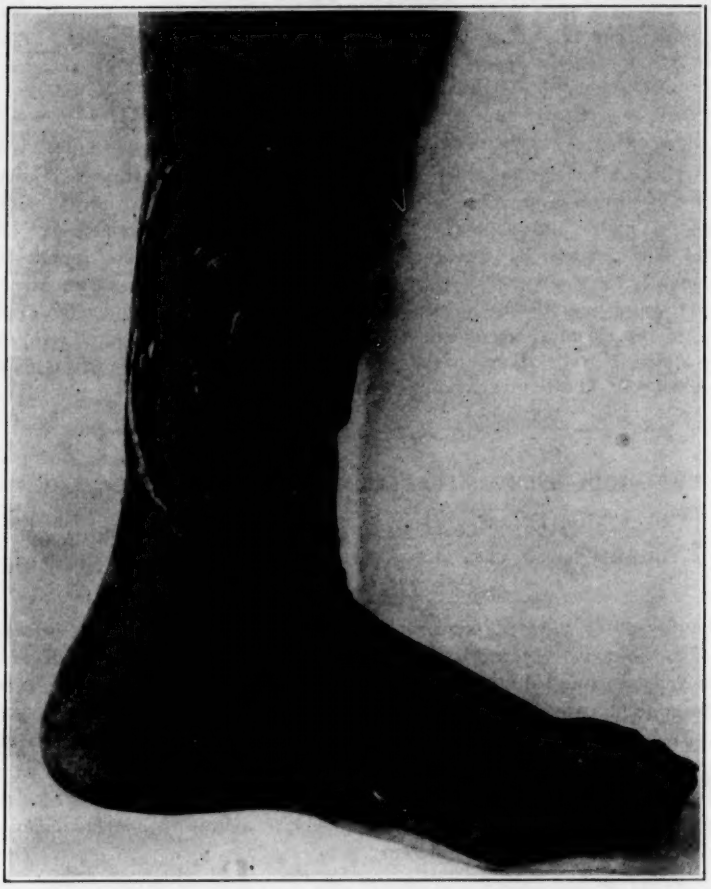
My patient's skin, which is black, took on a much more intensely black shade, which was almost generalized over the body, constituting a true melanoderma brought on by the absorption of mercury.

According to the patient's statement, the excentric progress of the gangrene took place as follows: Some days after the application of the mercury salt, preferably in the recent peripheral groove, a certain part of the skin outside that groove became black, and then another groove appeared a short distance from the original one, and in this way the gangrene arose.

The treatment consisted in stopping the use of the mercury salt and applying a weak solution of potassium permanganate. At present gangrene no longer exists, and the ulcerative process, which was extensive, is improving steadily. While the mercury salt was being used the patient did not clean the lesion, hence the remedy remained at the spot where it was deposited and became mixed with the gangrenous secretion.

REPORT OF A CASE

H. J. S., aged 17, a Brazilian rural laborer, was born in the state of Bahia and was living in Bello Horizonte. In the family and personal histories there was nothing abnormal. The patient stated that three months previously he had injured the inner surface of the lower third of the left leg and a small ulcer resulted. He was informed by a friend that mercury bichloride causes rapid cicatrization, and so he bought some at a chemist's to put on his ulcer. After using it he began to notice that the spot where the drug was applied was becoming



Cutaneous iridiform gangrene.

black, with the edges loose on the underlying tissue. Thinking, however, that the central part was healed while the peripheral zone still continued affected he began the treatment of this zone, with the result that another circular plaque of gangrene was formed. In this way the patient, with his own hands and with the best intentions managed, while constantly hoping to cure his ulcer, in the course of time to produce a curious gangrene due to mercury bichloride whose consequences might have been fatal if he had not consulted a physician and received proper treatment.

Physical examination showed nothing abnormal. Dermatologic examination revealed that the patient's skin was much darker than normal, and this was proved by the evolution of the process, for under treatment the skin is gradually acquiring its original color again. Dermatologic examination also showed an extensive plaque of gangrene on the inner surface of the lower third of the left leg, extending to the anterior, internal and part of the external surfaces; this plaque measured 20 by 19 cm. It consisted of six concentric circles, progressing centrifugally and separated one from the other by deep well defined grooves. It had loose edges and a fetid yellowish secretion. The gangrenous skin between one groove and another varied in size from 1.5 to 2 cm. The lesion as a whole presented an iridiform or *en cocarde* aspect, for the patches of gangrenous skin were separated by deep grooves containing a yellowish secretion. The central part of the lesion was dry. The most pronounced groove was the peripheral one, in which the secretion was abundant. The grooves were all equally well defined, some being more pronounced and others almost obliterated.

The gangrenous plaque was, on the whole, hard on palpation, painless and black. The periphery of the plaque was edematous. There was no acroasphyxia, and before his illness the patient had no subjective symptoms in the left lower limb.

Laboratory Examination.—There was no glucose in the urine. Wassermann and Kahn reactions were negative. Microscopic examination of the secretion revealed organisms resembling Corynebacterium diphtheriae. Cultural examination of the secretion revealed that aforementioned germs were pseudodiphtheric organisms not true C. diphtheriae. Inoculation of a guinea pig failed to produce a lesion. No amebas were found. The histopathologic examination was made by Dr. M. Junqueira, who reported the condition as cutaneous gangrene.

Rua Ceará, 1691.

AN UNUSUAL SOURCE OF DERMATITIS DUE TO NAIL POLISH

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Numerous articles have been written on contact dermatitis resulting from the use of nail polish. The following case is of interest because of the unusual source of the dermatitis.

REPORT OF A CASE

A white woman, 26 years of age, the wife of an officer, came to the dermatologic clinic with a scaly erythematous dermatitis involving the eyelids, sides of the face and anterior portion of the neck. She had been treated by several physicians who had administered roentgen ray therapy and had prescribed various local applications. The location of the lesions suggested a dermatitis due to nail polish, and the patient was advised to discontinue its use. The dermatitis improved shortly afterward with bland local therapy. Several weeks later the patient reappeared with a severe flare-up of the dermatitis on the eyelids, sides of the face and neck. She stated that nail polish had not been used during the preceding two weeks but that the eruption had suddenly recurred two days previously. A patch test with nail polish elicited a strongly positive reaction. A thorough history failed to reveal any other possible allergen. However, on being questioned further she suddenly recalled that nail polish had been used to cover her husband's insignia to prevent tarnishing. In addition, nail polish was used to cover a silver necklace and a silver bracelet, for the same purpose. After the

removal of the nail polish from the insignia, necklace and bracelet, the dermatitis cleared within a week and has not recurred.

SUMMARY

A case of nail polish dermatitis resulting from the use of nail polish to cover jewelry and insignia is reported.

TREATMENT OF CONDYLOMA ACUMINATUM WITH RESIN OF PODOPHYLLUM

C. RUSSELL ANDERSON, M.D., LOS ANGELES

Culp and Kaplan[1] made a notable contribution to the treatment of condyloma acuminatum with resin of podophyllum. They used a 25 per cent suspension of resin of podophyllum in liquid petrolatum applied with a cotton swab to the surface of the lesions. They found that the growths became blanched in a few hours, appeared necrotic twenty-four to forty-eight hours later, began to slough on the second or third day and promptly disappeared.

I can testify to the efficacy of this treatment. Culp and Kaplan found it impossible to keep the podophyllum suspension confined to the lesions. I have modified their method by using a 10 per cent tincture of Resin of Podophyllum (U. S. P.). This is not an official preparation but is prepared for me by my pharmacist. This is applied to the surface of the lesions with a cotton swab or a camel's-hair brush. Usually only one application is required for cure of the smaller acuminate condylomas. The surrounding normal skin may be protected by an ointment consisting of 25 per cent aluminum powder in paste of zinc oxide (Lassar's paste).

1930 Wilshire Boulevard.

1. Culp, O. S., and Kaplan, I. W.: Condylomata Acuminata: Two Hundred Cases Treated with Podophyllin, Ann. Surg. **120**:251-256 (Aug.) 1944.

DERMOGRAPHIA; ANOTHER SIDE EFFECT OF PENICILLIN THERAPY

FREDERICK KALZ, M.D., MONTREAL, CANADA

Urticaria is one of the few known untoward reactions of penicillin therapy. From May to November 1945 I observed 8 patients in the Royal Victoria Hospital in whom a generalized pruritus occurred after parenteral penicillin treatment and decided dermographia was exhibited. The dermographia started in 3 cases during therapy and in the others from five to thirteen days after the conclusion of therapy and lasted from two to eleven weeks. Five of the patients gave a history of previous eczema, urticaria or hay fever, but none suffered previously from dermographia. No relation to sex, age or an underlying condition was observed in this small group.

In all patients now receiving penicillin therapy, sensitivity to histamine will be determined before and after treatment and the results reported after sufficient material has been collected.

1414 Drummond Street.

A MODIFIED CALAMINE LINIMENT

JOHN G. DOWNING, M.D., BOSTON

One occasionally encounters a patient who has a hypersensitivity to olive oil and therefore gives a reaction to the standard calamine liniment. For several years it has been my custom to use for extremely hypersensitive patients a modified calamine liniment made with heavy liquid petrolatum. In doubtful cases I have prescribed both forms, instructing the patients to use one on one side of the body and the other on the opposite side.

In Boston there has been an extreme shortage of olive oil due to wartime restrictions. It has been necessary, therefore, to use liquid petrolatum. However, considerable difficulty has been experienced by some pharmacists in preparing the mixture. For this reason it is my custom to give the patient a typewritten prescription containing instructions for mixing, as follows:

	Gm. or Cc.
Prepared calamine N. F.	80
Zinc oxide	80
Solution of calcium hydroxide	500
Heavy liquid petrolatum	1,000

Place the solution of calcium hydroxide in an electric mixer, and start the motor. Add the calamine and the zinc oxide, and slowly add the heavy liquid petrolatum. Continue the mixing until the product is homogeneous.

Prepared as directed this mixture remains in emulsion for several days. Distilled water can be used instead of solution of calcium hydroxide, and the usual antipruritics, such as phenol and menthol, can be added.

Obituaries

GIRSCH DAVID ASTRACHAN, M.D.
1892-1946

Dr. Girsch David Astrachan died suddenly on April 30, 1946 of a heart ailment. He was born in Beresina, Government of Minsk, Russia, Jan. 4, 1892, and received his early education there. During World War I he was captain in the Imperial Russian Army during 1915 to 1917, becoming a prisoner of war in Germany in 1917 and remaining there until 1920.

He was interested in dermatology at the start of his career, as he became assistant physician in the Municipal Center for Skin and Venereal diseases in Rotterdam, Holland, in 1922. Dr. Astrachan graduated from the Thüringische Landesuniversität medizinische, Fakultät, Jena, Germany, in 1923 and came to the United States in 1924. His internship was served at Metropolitan Hospital (1924-1925) under Commissioner Edward M. Bernecker, M.D., then superintendent of the hospital.

Dr. Astrachan was a member of the American Medical Association; New York Academy of Medicine; American Academy of Dermatology; Society for Investigative Dermatology; Bronx Dermatological Society; Manhattan Dermatologic Society, and Russian Medical Society. He was assistant clinical professor of dermatology at New York Medical College, Flower and Fifth Avenue Hospitals, and associate in dermatology and syphilology, Columbia University. His hospital connections were associate visiting dermatologist, department of correction Hospitals; visiting dermatologist and syphilologist, Metropolitan Hospital; attending dermatologist and syphilologist (outpatient department) Skin and Cancer Unit, New York Post-Graduate Medical School and Hospital. He was a specialist certified by the American Board of Dermatology and Syphilology, Inc.

He wrote and published many medical papers, mostly on syphilis, and completed a number of research and experimental problems. He was a pioneer in the use of oxophenarsine hydrochloride (mapharsen), especially in congenital syphilis, and experimented in the use of liver extract for patients who did not tolerate arsenic.

Dr. Astrachan was an excellent teacher, loved and respected by his students. Integrity and reliability were foremost among his many admirable qualities. His patients loved him and had the greatest confidence in his ability to help them. Dr. Astrachan's life spelled inspi-

GIRSCH DAVID ASTRACHAN, M.D.
1892-1946

ration to his colleagues, his family and his numerous friends. He was interested in the arts, especially music.

Dr. Astrachan married Marie Helen Goldberg, of Granville, N. Y., on Jan. 3, 1927. He is survived by his wife, his son John and his brothers, Dr. Isaac Astrachan of New York, and Lazar Astrachan of Paris, France.

VAN ALSTYNE CORNELL, M.D.

Correspondence

IS PENICILLIN A PHOTOSENSITIZING AGENT?

To the Editor:—Under the title "Is Penicillin a Photosensitizing Agent?" Dr. Orlando Canizares (ARCH. DERMAT. & SYPH. **52**:17 [July] 1945) reports on an interesting case. Since penicillin is such an important drug, the question whether it is also a photosensitizer deserves careful attention; therefore, I should like to comment briefly on Dr. Canizares' report.

These are the facts of the case: The patient had taken sulfonamide drugs between January 6 and 19. On January 29 he had received 50,000 units of penicillin. On January 30 he took a sun bath, which was followed by a rather severe erythema. Three days later a morbilliform eruption was noticed at the areas previously most affected by the sunburn.

There is no doubt that one is dealing here with some form of photodermatitis. The question is: Was it caused by the sulfonamide drugs or by the penicillin? One would first think of the sulfonamide drugs because they are known to produce photosensitivity. Dr. Canizares has considered this possibility unlikely because of the interval between the discontinuation of the sulfonamide treatment and the appearance of the eruption and because of the fact that the blood did not show residual sulfadiazine prior to the use of the penicillin. However, it is known that small amounts of sulfonamide compounds capable of eliciting allergic reactions may persist especially in the skin long after demonstration of the drug in the blood is possible. I may recall a case (Epstein, S.: Studies in Abnormal Human Sensitivity to Light, *J. Invest. Dermat.* **5**:187-196 [Aug.] 1942 [Case 11, p. 193]) of a boy in whom there developed urticaria photogenica following sulfanilamide treatment, which occurred after heavy exposure to the sun three weeks after discontinuation of the drug. This boy, too, had been exposed to the sun between the end of the sulfonamide medication and his first outbreak but less heavily. It seems, in the light of present knowledge, more likely to ascribe the severe reaction after sunburn in Dr. Canizares' case to the sulfonamide compounds.

The morbilliform eruption noticed four days after the sunburn and appearing especially in the area most severely affected by the sunburn probably is something different. Photosensitivity covers a lot of different phenomena. One may distinguish manifestations caused by true photosensitizing agents, which may act by primary phototoxicity and/or photoallergy. On the other hand, there is a phenomenon called "phototraumatism." This term covers those eruptions that occur at the site of previous reactions to light. It is well known that dermatophytid or lichen planus or psoriasis may occur exactly at the site of the previously sunburned area. In this instance it is not necessary for the agent that causes the eruption to be a photosensitizer. I recall a patient of mine who had a mild papular dermatitis seven days after injection of tetanus antitoxin (horse serum); the eruption was confined entirely to the area that had been sunburned the day after the serum had been injected. In these cases one may assume that vascular changes in the sunburned area favored the development of local sensitivity of these regions.

The morbilliform eruption in Dr. Canizares' case might be explained on this nonspecific basis. All in all, his case does not seem to present sufficient evidence to prove that penicillin is a photosensitizing agent.

STEPHAN EPSTEIN, M.D., Marshfield, Wis.

PASSIVE IMMUNIZATION OF PEMPHIGUS VULGARIS

To the Editor:—Drs. Arthur W. Grace and Leon D. Hellman published a paper (Pemphigus Vulgaris: Successul Results Following Transfusion with Blood from Persons Who Had Recovered from the Disease, ARCH. DERMAT. & SYPH. **53**:249 [March] 1946) which implies that this method is a new and original one. As early as 1936 L. Kumer (in discussion on Urbach, E.: Versuche einer aktiven Immunisierung von Pemphiguserkrankungen, *Zentralbl. f. Haut- u. Geschlechtskr.* **52**:277, 1936) reported some astonishing results with injection of blood or blood serum from persons convalescent from pemphigus into patients with this disease. Similar experiences were described by me (same reference). Since convalescent blood or serum is difficult to obtain, I introduced the transfusion of immune serum from rabbits which had been experimentally infected with pemphigus virus and had recovered from this disease (Urbach, E., and Wolfram, S.: ARCH. DERMAT. & SYPH. **33**:788 [May] 1936). Since repeated injection of animal serum is liable to induce anaphylaxis, we are now trying the use of despeciated pemphigus rabbit serum.

In passing, I should like to call attention to our attempts actively to immunize patients with pemphigus with formaldehyde-treated brain tissues of pemphigus-infected rabbits after these patients had recovered temporarily through the use of passive immunization methods.

ERICH URBACH, M.D., Philadelphia.

136 South Sixteenth Street.

BENADRYL IN CHRONIC URTICARIA

To the Editor:—Six patients with chronic urticaria under treatment with Benadryl complained that the medication made them so sleepy that it was not practical for them to use it except at bedtime. All were instructed to take half of a 10 mg. tablet of amphetamine sulfate (Benzedrine) at the same time as the Benadryl. All except 1 patient reported complete relief of the annoying drowsiness, and this one was relieved by taking three-fourths of an amphetamine sulfate tablet. The undesirability of prolonged habitual use of amphetamine sulfate is recognized, but these patients required only one or two doses a day, which seems reasonably safe and at least preferable to the obvious alternatives.

HARRY L. ARNOLD JR., M.D., Honolulu, Hawaii.

News and Comment

GENERAL NEWS

The Society for Investigative Dermatology.—The Society for Investigative Dermatology will resume its annual meetings and is meeting this year at the Hotel Whitcomb, San Francisco, on June 30. The two scientific sessions, from 10 a. m. to 1 p. m., and from 2 to 6 p. m., are open meetings and not limited to members only. The scientific program consists of fifteen papers.

Membership in Philadelphia Dermatological Society.—Election to active membership in the Philadelphia Dermatological Society shall hereafter be restricted to specialists certified by the American Board of Dermatology and Syphilology.

DEATHS

Dr. Mihran B. Parounagian died on June 12, 1946.

Abstracts from Current Literature

EDITED BY DR. HERBERT RATTNER

ALLERGY AS A FACTOR IN SURFACE ULCERS, VARICOSE VEINS, PHLEBITIS AND THROMBOSIS. JOHN A. TURNBULL, Am. J. Digest. Dis. **12**:272 (Aug.) 1945.

Turnbull reports 6 cases, including 2 of pruritus and eczema and 3 of varicose ulcers of the legs. Successful treatment was based on diets avoiding foods demonstrated by cutaneous tests to be allergenic. Turnbull believes that allergenic foods and other substances may produce inflammation and other reactions in the endothelium of the blood vessels, in the same way that they produce the more familiar sensitizations of the epithelium.

THE USE OF PENICILLIN IN TOPICAL APPLICATION. LAWRENCE H. SOPHIAN, Am. J. M. Sc. **208**:577 (Nov.) 1944.

Sophian and Connolly performed experiments which showed that in a suitable ointment base penicillin when applied topically has a considerable ability to penetrate a solid agar culture medium, and that penetration is enhanced by the addition of a wetting agent (Aerosol M A). Other in vitro experiments showed that diffusion through the skin is certainly too small for therapeutic utility. Clinical use of penicillin-Aerosol vanishing cream ointment was made in 11 cases and had strikingly effective value in the treatment of acute and chronic pyogenic infections of the skin and subcutaneous tissues, particularly sycosis barbae, infected superficial wounds and furunculosis. The author points out that there are many bacteria which are resistant to low concentrations of penicillin but which are susceptible at higher levels. Chancroid is an example of such a disease; in 1 case excellent results were obtained in seven days.

PENICILLIN: WITH SPECIAL REFERENCE TO ITS USE IN INFECTIONS COMPLICATING DIABETES. FRANKLIN B. PECK, Am. J. M. Sc. **208**:581 (Nov.) 1944.

In a discussion of cellulitis and carbuncles occurring in diabetic persons, Peck points out that penicillin is an invaluable adjunct to treatment. His experience suggests that it may be more effective if given locally directly into infected tissues than if injected parenterally for systemic effect. The solutions used for this purpose ranged from 100 to 1,000 units per cubic centimeter of isotonic solution of sodium chloride.

A CASE OF ECZEMA AS A SOURCE OF A STREPTOCOCCAL EPIDEMIC. G. K. DEFOREST and LORRAINE M. KERR, Am. J. M. Sc. **209**:752 (June) 1945.

DeForest and Kerr report a small epidemic of streptococcic diseases among student nurses taking care of a child with secondarily infected eczema. During a three-month period 50 per cent of the nurses who cared for this child became ill with sore throat or scarlet fever.

ALBRIGHT'S SYNDROME (POLYOSTOTIC FIBROUS DYSPLASIA WITH CUTANEOUS PIGMENTATION IN BOTH SEXES AND GONADAL DYSFUNCTION IN FEMALES). MALCOMB B. DOCKERTY, RALPH K. GHORMLEY, ROGER L. J. KENNEDY and DAVID G. PUGH, Arch. Int. Med. **75**:357 (June) 1945.

Dockerty and his associates report 6 new cases of Albright's syndrome. In the course of a thorough general discussion they state that extensive cutaneous pigmentation, often occurring in the form of large irregular patches, is an almost

constant accompaniment of osseous lesions of pronounced degree in Albright's syndrome. These patches of pigmentation may occur with a predilection for the side of the body that has the most pronounced bony lesions. The back, buttocks, inner aspects of the thighs, neck and scalp are common sites. In 1 case a large pigmented spot on the scalp was the only discolored area and was associated with alopecia.

In dermatologic discussions there has been a tendency to question whether this syndrome may be related to neurofibromatosis, but the authors state that the diseases can be distinguished by the fact that neurofibromas do not occur in connection with Albright's syndrome.

EXPERIMENTAL REPRODUCTION OF MADUROMYCOTIC LESIONS IN RABBITS. DOUGLAS SYMMERS, Arch. Path. **39**:358 (June) 1945.

Symmers reports success in experimental studies with subcutaneous injections of Phialophora jeanselmei into rabbits, producing solitary nonulcerative nodules which histologically are specific and are closely comparable to the nodules in that form of maduromycosis in man which is caused by the same fungus.

PHIALOPHORA JEANSELMEI COMB. N. FROM MYCETOMA OF THE HAND. C. W. EMMONS, Arch. Path. **39**:364 (June) 1945.

Emmons describes the mycologic characteristics of a fungus isolated from a patient with mycetoma of the hand which developed after an injury in which splinters from a wooden floor pierced the skin. The fungus resembles Phialophora, which is known to occur on wood.

LYNCH, St. Paul.

MULTIPLE MALIGNANT HEMANGIO-ENDOTHELIOMA IN INFANT: REPORT OF CASE. A. R. SCHWARTZ, Arch. Pediat. **62**:1 (Jan.) 1945.

The author reports a case of multiple malignant hemangio-endothelioma in a 6 week old girl, with the history of emaciation, malaise, poor appetite and progressive swelling of abdomen since birth. On examination numerous hemangiomas scattered over the body and extremities were noted. The abdomen was noticeably enlarged, and the liver extended to the umbilicus. There was severe anemia. The course of the disease was rapid and fatal. Schwartz feels that this case fulfils most of the criteria which were formulated by Kunstader after reviewing 15 cases. The criteria are: (1) enlarged abdomen since birth, (2) various gastrointestinal disturbances, (3) progressive course, (4) respiratory embarrassment and (5) anemia.

The clinical course of malignant vascular tumors varies considerably depending on the type present. There are three different types: those with metastasizing hemangiomas running a benign course, in which the health of the child is relatively unaffected; those in which there is a more fulminating clinical course, with rapid loss of weight and cachexia, progressing rapidly, with death in weeks or months, and those which simulate melanotic sarcoma. At necropsy tumor nodules were observed in the middle lobe of the right lung and throughout the liver. There was no histologic evidence of a malignant process.

CETYL TRIMETHYL AMMONIUM BROMIDE IN THE TREATMENT OF A FEW SKIN-LESIONS, PARTICULARLY IMPETIGO. JOHN A. TOOMEY, PAUL M. KOHN and RALPH C. LOHREY, Arch. Pediat. **62**:108 (March) 1945.

Cetamium (cetyl trimethyl ammonium bromide), a quaternary ammonium compound, is an efficient wetting agent, cationic detergent and antiseptic. It can be used for several purposes: to remove dirt and grease, to make surfaces sterile and to remove scabs and crusts from impetiginous areas. It was found to be of value for patients with impetigo who were actually in a hospital or an institution at the time treatment was administered. The treatment was carried out by one or

two persons who were instructed to cleanse the lesions with hot saline solution or solution of boric acid twice daily and apply the cetamium mud (paste) directly to the lesion as a plaster. The material is valueless if cursorily placed over an impetiginous lesion, as it will cake and pus may collect under the crust. In the few cases of resistant impetigo there was clearing after sulfathiazole ointment was used. The authors do not recommend the use of cetamium for cutaneous diseases when caking would be a disadvantage. They thought that the drug was of some value against severe ringworm infections.

GELBER, Los Angeles.

EFFECT OF TOPICAL APPLICATION OF VITAMINS AND SOME OTHER CHEMICALS ON THE HEALING OF WOUNDS. GROSVENOR W. BISSELL, Arch. Surg. **49**:225 (Oct.) 1944.

Recognizing the general growth-promoting properties of the vitamins, the author studied the effects of various substances when applied directly to wounds. Topical applications were made on wounds of uniform size in normal rats. The substances studied were vitamins A, C, D and E, thiamine hydrochloride, nicotinic acid, riboflavin and other preparations. No definite benefit was derived from the use of any of these substances.

KAISER, Rochester, N. Y. [AM. J. DIS. CHILD.]

THE NEOPLASTIC POTENTIALITIES OF MOUSE EMBRYO TISSUES: I. THE FINDINGS WITH SKIN OF C STRAIN EMBRYOS TRANSPLANTED TO ADULT ANIMALS. II. CONTRIBUTORY EXPERIMENTS; RESULTS WITH THE SKIN OF C 3H AND WEBSTER-SWISS EMBRYOS; GENERAL CONSIDERATIONS. PEYTON ROUS and WILLIAM E. SMITH, J. Exper. Med. **81**:597 and 621 (June) 1945.

Smith and Rous discuss the results of experimental studies which attempted to test whether embryo epidermis is capable of undergoing neoplastic change. The work showed that epidermal tumors arise with great rapidity and regularity from embryo skin transplanted to adults of a certain homologous strain together with methylcholanthrene. Further studies gave no ground for the supposition that embryo skin has any special liability to neoplastic change, nor did such studies make it possible to assume that the neoplastic potentialities of the transplanted tissues were due to viruses or other specialized precursor agents which are known today.

The authors conclude that the rarity of neoplasms at birth is due to the circumstances of intrauterine life and to its brevity, not to any lack of capacity of the cells of the embryo to undergo neoplastic change.

LYNCH, St. Paul.

HORMONAL TREATMENT OF ACNE. E. SIMON, Union méd. du Canada **74**:37 (Jan.) 1945.

The author cites the following facts in support of the belief that acne is a hormonal disease: 1. It never appears in castrated males. 2. It appears in adolescence and tends to disappear in adult life, when the hormonal equilibrium is reestablished. 3. It develops in females treated with testosterone. 4. It is worse before the menstrual period, when the amount of folliculin in the blood is at its lowest level.

The author thinks that androgenic hormones are acnegenic and that estrogenic hormones protect against the disease. The possibility of anterior pituitary stimulation is discussed, but Simon concludes that as yet such attempts have been unsuccessful in the treatment of gonadal insufficiency or disequilibrium. He prefers to administer diethylstilbestrol (0.5 to 1.5 mg. daily by mouth) over a period of at least six months. The possible dangers of such treatment are pointed out, such as feminization and testicular atrophy in males and menstrual upsets in females (metrorrhagia or amenorrhea).

Two cases of successfully treated acne vulgaris are reported.

LAYMON, Minneapolis.

THE RELATIONSHIP OF ACNE WITH DANDRUFF AND SEBORRHOEIC DERMATITIS. E. LIPMAN COHEN, Brit. J. Dermat. **57**:45 (March-April) 1945.

In an examination of 500 young women, the author noted the amount of dandruff of the scalp and made a search for seborrheic dermatitis. His conclusions are: (1) that the association of acne and gross dandruff is supported, and (2) that no support is found for the statement that acne and seborrheic dermatitis are apt to occur together.

PSYCHOGENIC FACTORS IN ACNE. E. LIPMAN COHEN, Brit. J. Dermat. **57**:48 (March-April) 1945.

The author interviewed a group of men and women with acne. A considerable number of possibly relevant psychogenic manifestations were found, especially among the men and among the higher age groups. The results being uncontrolled, their interpretation is uncertain. Slight evidence was found for a period of strain or fatigue preceding the acne. The clinical impression remains strong that women in the thirties with acne are neurotic.

MULTIPLE SUPERFICIAL CARCINOMATA OF THE SKIN. MARY JOHNSON, Brit. J. Dermat. **57**:58 (March-April) 1945.

The author reports 5 cases of multiple superficial carcinomas of the skin. The type of lesion appearing on exposed parts, such as the face, differs clinically from that on the trunk. The former is the well known rodent ulcer, which progresses comparatively rapidly, with ulceration and destruction of tissue; the latter is less easy to diagnose unless the miniature rolled edge is recognized, and ulceration in these cases is rare. Lesions of the latter type tend to occur at a younger age and, apart from cosmetic considerations, cause no inconvenience.

A CASE OF ERYTHEMA ANNULARE CENTRIFUGUM. G. A. G. PETERKIN, Brit. J. Dermat. **57**:65 (March-April) 1945.

The author reports a case of erythema annulare centrifugum that responded dramatically to sulfathiazole.

BLUEFARB, Chicago.

CUTANEOUS ANTHRAX TREATED WITH PENICILLIN. A. M. ABRAHAMS, Brit. M. J. **1**:771 (June 2) 1945.

A patient with cutaneous anthrax was successfully treated with a total of 600,000 units of penicillin over a five day period. The temperature became normal after twenty-four hours, and the patient was discharged sixteen days after the onset of his illness.

DARK-ADAPTATION STUDIES IN SKIN DISEASE. ARTHUR PORTER and E. W. GODDING, Brit. M. J. **1**:840 (June 16) 1945.

A group of patients under treatment for cutaneous disease and a control group numbering about 100 each were tested with the dark adaptation test. There was no significant difference between the mean threshold values of the two groups.

SHAW, Chattanooga, Tenn.

SULFONAMIDES IN SKIN DISEASES. S. L. KALLIANPURKAR, Indian J. Ven. Dis. **10**:34 (April-June) 1944.

The author recommends sulfathiazole internally (2 to 3 Gm. daily) and externally as a dusting powder in treatment of intertrigo. Sulfathiazole orally and a 20 per cent aqueous solution of gentian violet medicinal are advised for infectious eczematoid dermatitis. For ordinary impetigo sulfathiazole is used internally and externally. The author states that alopecia in persons 20 to 30 years of age is often due to acne necrotica miliaris, an opinion with which few dermatol-

ogists will agree. Sycosis barbae, Bockhardt's impetigo and bacterid or allergic dermatitis caused by "a septic focus somewhere" are among other dermatoses for which he advocates treatment with sulfonamide compounds internally and externally.

Lupus erythematosus, erythema nodosum and erythema induratum are diseases which, in the author's opinion, are due to a toxin of tuberculous, nontuberculous or unknown origin. Sulfonamide drugs are advised for these conditions, either parenterally or by external application. Three to 4 Gm. of the drug daily for four or five days is said to have favorable results against the organisms.

ARIBOFLAVINOSIS IN NORTHERN PERU. K. VIGORS EARLE, J. Trop. Med. & Hyg. **48**:10 (Feb.-March) 1945.

The author surveys the incidence of ariboflavinosis in 403 patients who were hospitalized for all types of disease or accident. The results were as follows: Of patients found to have oral lesions, angular stomatitis occurred in 8.19 per cent, and lingual alterations were present in 3.25 per cent. Of patients suffering from dermal lesions, nasolabial "seborrhea" was present in 16.62 per cent, "seborrhea" of the ears in 3.72 per cent and facial comedos in 26.57 per cent. Oral lesions were far commoner in females, while dermal lesions were more frequent in males.

LAYMON, Minneapolis.

A STUDY OF DISEASES OF AUSTRALIAN NATIVES IN THE NORTHERN TERRITORY. RAYMOND T. BINNS, M. J. Australia **1**:421 (April 28) 1945.

Diseases which are usually found among the natives but rarely among the white population in Australia are yaws ankylostomiasis, granuloma inguinale and leprosy. In a study of approximately 400 patients, mostly full-blooded aborigines, 48 per cent had a positive Kline precipitation reaction of the blood. Thirty of the 193 patients who reacted to the test had lesions which were regarded as typical of yaws, and 51 had lesions which resembled yaws, but which could not be described as typical. It may be reasonably assumed that the majority of the remaining 113 reactors to the Kline test (with the exclusion of the occasional positive result which may have been caused by malaria or leprosy) had had a previous spirochetal infection. Yaws responds rapidly to treatment with penicillin. Several persons with gangosa were seen; in all the Kline test produced a reaction. Bony lesions that were regarded as being caused by yaws were frequently seen, and 15 cases of "boomerang legs" with anterior bowing of the tibia were observed. A patient with interstitial keratitis was noted and also a patient with symptoms closely resembling tabes dorsalis.

The important difference between syphilis and yaws, if they are separate entities, is that one predominantly affects the white population and the other the native population. The difference in the mode of living is probably one of the important etiologic factors. The absence of the primary and secondary clinical manifestations of syphilis supports the theory that a widespread infection by Treponema pertenue immunized the native population against syphilis.

Twenty patients suffering from granuloma inguinale were seen. They responded well to injections of antimony preparations. Twelve natives suffering from leprosy were found.

HENSCHEL, Denver.

CLINICAL TUBERCULIN DIAGNOSTIC BY MEANS OF WEAK INTRACUTANEOUS DOSES, WITH SPECIAL REGARD TO TUBERCULOUS SKIN DISEASES. P. BONNEVIE and R. BJÖRNSTAD, Acta dermat.-venereol. **21**:9 (Feb.) 1940.

There appears to exist large variations in the reactivity against weaker doses of tuberculin (in dilutions down to 0.000001 mg.). These variations seem to be strongly dependent on the character of the tuberculous infection and are consequently of diagnostic value. The result of an examination with the aid of graduated intracutaneous tuberculin tests is best judged by the so-called threshold value

being used as a basis, the weakest dose eliciting a positive reaction. An experimental survey was made on patients with established diagnoses of cutaneous tuberculosis or tuberculids, i. e., lupus vulgaris, tuberculosis verrucosa cutis, ulcerative tuberculosis of the skin, colliquative tuberculosis, acneform tuberculids and erythema induratum. The control material was composed of all patients with positive reactions to the tuberculin tests with nontuberculous diseases of the skin and 85 healthy nurses, a total of 835 persons.

The majority of patients with lupus vulgaris had positive reactions to tuberculin tests with 0.001 mg. or less with the greatest percentage showing positive reactions to tests with 0.000001 mg. of old tuberculin. Whenever sensitivity to tuberculin was lower than to 0.001 mg. of old tuberculin there was a predominant amount of accompanying pulmonary tuberculosis, demonstrating that sensitivity to tuberculin is reduced by the coexistence of pulmonary tuberculosis. In the same series it was found that sensitivity to tuberculin was reduced with clinical cure of the disease.

In the cases of tuberculosis verrucosa cutis and ulcerative and colliquative tuberculosis of the skin, the threshold in the majority of cases was with quantities of 0.001 mg. of old tuberculin. Among the cases of tuberculids the patient's sensitivity to tuberculin was extremely high. No patient showed a threshold with concentrations greater than 0.001 mg., and 70 per cent of these gave positive reactions to the tuberculin tests with 0.000001 mg. of old tuberculin or less. Slightly lower values were present in the cases of erythema induratum.

Tests of the same type were made on patients with diseases of the skin for which a tuberculous cause had been suspected—namely, lupus erythematosus, Boeck's sarcoid, tuberculosis miliaris disseminata faciei, granuloma annulare and erythema nodosum. Erythema nodosum in tuberculous primary infection in adults showed at first a threshold of 0.1 mg. to 0.01 mg., but in the subsequent months the threshold of sensitivity rose to 0.0001 to 0.000001 mg. of old tuberculin. In cases of lupus erythematosus the patients had a low sensitivity, and 2 did not react to 1 mg. of old tuberculin. Sixteen patients in 45 cases of tuberculosis miliaris reacted negatively to the tuberculin tests, with the highest threshold of 0.01 mg. The sensitivity to tuberculin in cases of granuloma annulare and Boeck's sarcoid was equally low. The authors express the belief that in the absence of tuberculosis of the inner organs a high degree of sensitivity to old tuberculin in amounts of 0.001 mg. or less is indicative of a tuberculous origin of the dermatosis in question.

GENERALIZED HERPES ZOSTER AND LYMPHATIC LEUKEMIA. B. BÄFVERSTEDT, Acta dermat.-venereol. **21**:60 (Feb.) 1940.

Hemorrhagic herpes zoster with necrosis and accompanied with a generalized varicelliform eruption appeared in a man 70 years of age. During the course of a routine examination he was found to have a coexisting lymphatic leukemia. Since it is known that a generalized varicelliform eruption occurs in lymphatic leukemia from two to three years after the onset of the disease, Bäfverstedt is of the opinion that the eruption was an early symptom of the leukemia. He concludes that in all cases of herpes zoster, particularly of the generalized form, a thorough search for possible blood dyscrasias should be made. On the other hand, he suggests that physicians should watch patients recovering from herpes zoster for some time to avoid the mistake of erroneously diagnosing a transitory lymphatic reaction as true leukemia.

ROBINSON, Washington, D. C.

Society Transactions

NEW ENGLAND DERMATOLOGICAL SOCIETY

Jacob H. Swartz, M.D., *President*

Francis M. Thurmon, M.D., *Secretary*

Dec. 13, 1944

Keratosis Follicularis. Presented by MAJOR EARL A. GLICKLICH, M.C., A.U.S.

G. K., a white man aged 29, presents a generalized pruritic dermatitis of two years' duration, which developed while he was serving in the European Theater of Operations. The diagnosis was confirmed by biopsies at an overseas base hospital. Since the eruption did not respond to therapy, the patient was evacuated and admitted to the Lovell General Hospital on Nov. 27, 1944.

Results of physical examination were within normal limits except the eruption, which is generalized. The lesions are discrete, small, firm papules of light, waxy, brownish color at the pilosebaceous orifices. On the anterior portion of the chest, the eruption tends to be confluent and forms an erythematous area which is slightly moist. In the genitocrural region, a mild vegetative tendency is noted.

Results of blood counts, urine tests and roentgen ray examination of the chest were within normal limits. Histologic sections were consistent with the diagnosis of keratosis follicularis.

DISCUSSION

DR. JACOB H. SWARTZ, Boston: I do not believe that this is keratosis follicularis. I offer a diagnosis of pityriasis rubra pilaris because of the follicular enlargement on the dorsal aspect of the proximal phalanges, because this eruption appeared only two years ago rather than early in life and because of the involvement of the soles in this case. I did not see the slide. I understand that Dr. Lever saw it.

DR. WALTER F. LEVER, Boston: There was one section that seemed to be consistent with a diagnosis of keratosis follicularis. A lacuna was present, and there were dyskeratotic changes in the lower layers of the epidermis. I was much interested to find small keratotic lesions on the soles of this patient. Such lesions have been described in keratosis follicularis.

DR. FRANCIS P. MCCARTHY, Boston: I saw the slide. I did not observe the lesions on the sole. I favor the diagnosis of keratosis follicularis.

DR. LEONARD E. ANDERSON, Springfield, Mass.: I thought that the eruption showed the characteristic clinical picture of keratosis follicularis.

DR. G. MARSHALL CRAWFORD, Brookline, Mass.: I do not recall seeing pityriasis rubra pilaris of the scalp. I agree with the diagnosis of keratosis follicularis.

DR. JACOB H. SWARTZ, Boston: The scalp is involved, sometimes extensively. The eruptions in the cases I have seen, 1 in particular at the Massachusetts General Hospital, have been called psoriasis. That patient was a young girl with rheumatoid arthritis which turned out to be a typical case of pityriasis rubra pilaris with involvement of the soles, palms and scalp.

DR. C. GUY LANE, Boston: I want to thank Major Glicklich for bringing these cases, and I hope that this will encourage him to bring more.

Lichen Planus. Presented by MAJOR EARL A. GLICKLICH, M.C., A.U.S.

The following 3 cases of lichen planus are presented as representative of this disease occurring among servicemen in the Southwest Pacific.

In C. D., a white man aged 36, a dry, scaling eruption developed on the lips and eyelids in August 1944. Shortly thereafter, pruritic, raised lesions appeared

on the wrist, dorsa of the hands, forearms, feet and genitalia. Itching was sufficiently severe to interfere with his work and sleep. He was hospitalized overseas September 8. On October 20 he was admitted to the Lovell General Hospital.

Examination reveals a hypertrophic, dry, scaling violaceous eruption which is generalized but most pronounced on the dorsa of the hands, the eyelids and the ears. Lesions typical of lichen planus are present on the buccal mucosa.

Laboratory studies, including blood counts and urinalyses, were normal. Roentgen ray examination of the chest revealed a slight thickening of the right apical pleura. Reactions to serologic tests for syphilis were negative.

In a white man aged 22, vesicular lesions developed between the toes in April 1944. Soon thereafter lesions appeared on the legs, hands and trunk. On June 14, he was hospitalized overseas, and, as the eruption failed to respond to local therapy, he was evacuated and admitted to the Lovell General Hospital on Oct. 16, 1944.

Examination reveals a dry, scaling, papular, violaceous eruption on the dorsa of the hands, anterior aspects of the legs and upper portion of the trunk. Results of a general physical examination are normal except for the eruption.

The blood count, urinalyses and roentgenologic studies of the chest were within normal limits. Histologic sections were consistent with lichen planus. Serologic reactions for syphilis were negative.

In a white man aged 30 a pruritic vesicular eruption developed between the fingers and toes in June 1944. Shortly thereafter lesions appeared on the legs, thighs, groin, abdomen, back and face, especially around the eyes and ears. The eruption failed to respond to therapy, and the patient was evacuated and admitted to the Lovell General Hospital on October 20.

The results of a superficial physical examination with the exception of the eruption are within normal limits. The patient presents a generalized violaceous papular, slightly scaling eruption on the hands, feet, trunk and face, involving particularly the eyelids and ears. Small papular lesions resembling leukoplakia are present on the buccal mucosa.

Results of blood counts, urinalyses and roentgen ray examination of the chest were within normal limits. The serologic reaction for syphilis was negative.

DISCUSSION

MAJOR EARL A. GLICKLICH, M.C., A.U.S.: In the military service this unusual atypical form of lichen planus has been seen for some time. Patients have been returning from the Southwest Pacific Area, primarily from New Guinea. There are a number of these patients invalided back to the United States so that if they have not been seen they will be shortly. What the cause of the eruption is no one knows. An eminent dermatologist recently returned from England and is carrying out a survey of the group in this country. At the present time, another eminent dermatologist from New York city is in the Southwest Pacific Area, where he is studying the dermatologic cases which have been received from that area.

What has been seen today is an atypical type of lichen planus. However, cases have occurred in which generalized exfoliative dermatitis has followed the onset of lichen planus. Some of the patients have had suppression of the bone marrow and aplastic anemia has developed; others have died. There have been other pathologic changes in the body. I offer no explanation. I thought that there might be something to suggest the cause.

DR. C. GUY LANE, Boston: It is interesting to hear of such a large group of patients with lichen planus coming from one locality. It again raises the question of the possibility of a bacteriologic or possibly a filtrable virus as the etiologic factor. This recalls the report of Jacob and Helmbold (Jacob, F. M., and Helmbold, T. R.: Bacteriologic Studies on Lichen Planus: A Preliminary Report, ARCH. DERMAT. & SYPH. **27**:472 [March] 1933) wherein they report the isolation of gram-negative anaerobic bacilli from 25 to 28 patients with lichen planus, using a semisolid dextrose-serum agar medium containing cubes of human tissue.

Their study has not been confirmed so far as I know; at least Portma's investigation (Portma, C.: Experiments in the Culture of the Organism of Lichen Planus by Jacob and Helmbold's Method, ARCH. DERMAT. & SYPH. **36**:836 [Oct.] 1937) failed to yield the organisms described by Jacob and Helmbold. That lichen planus is probably caused by a filtrable virus is an opinion expressed by many dermatologists was stated by Wise and Sulzberger in 1938 (Year Book of Dermatology and Syphilology, Chicago, The Year Book Publishers, Inc., 1938, p. 497). However, such reports certainly raise the question concerning the need for further studies on the possible infectious character of lichen planus.

It is interesting to see the variation in the type of cases which are shown today. The eruption in these 3 cases are fairly well generalized. C. D. showed considerable pigmentation, especially of the face. He recalls a patient who was seen at the Massachusetts General Hospital some years ago, an Italian who had profuse eruption on both cheeks. Later, there was a good deal of questioning at these meetings as to whether or not that had been lupus erythematosus or lichen planus. If I had not seen it in the beginning and if I had not seen the lesions characteristic of lichen planus, I should have had some doubt. The hands of patient C. D. showed a good deal of atrophy. I think that the eruption will be permanent. I am wondering whether many of the other patients have shown the tendency toward the production of similar atrophy.

So far as the direct question which Major Glicklich raised, I do not believe that there have been many more cases of lichen planus at our clinic or in my own practice than before. I think that every one is conscious of the discussions which arose at the meetings during the depression of 1931 and 1932 and at the time of the last war as to whether or not there were more cases occurring in times of nervous tension and excitement, but I think that it was generally agreed that they were no more prevalent. I think that this group is an extremely interesting one. I hope that something to follow can be worked out.

DR. GEORGE E. MORRIS, Boston: All these people have in common the fact that they took quinacrine hydrochloride (atabrine). I think that some of our patients with lichen planus should be given quinacrine hydrochloride to see if they show any change.

DR. C. GUY LANE, Boston: I should like to ask Major Glicklich if any of these patients have been given a course of bismuth.

MAJOR EARL A. GLICKLICH, M.C., A.U.S.: Some of them have had bismuth but not in full courses; others have had small amounts. They have had the usual course that was expected. A great many of those who have returned to the United States start to improve just as soon as they pass the equator. I have not given any specific therapy such as bismuth or mercuric salicylarsonate; the lesions soon improve, leaving pigmentation. In regard to quinacrine hydrochloride, patients have been seen who have not received quinacrine hydrochloride. At first it was thought that quinacrine hydrochloride might be the whole cause, but, as I stated, patients have been seen that have not received quinacrine hydrochloride. A great many of them have had sulfonamide drugs but not all of them. As regards the beginning of some of these lesions, 2 of the boys and a great many other patients have given a story that they began to have vesicular lesions on the extremities, particularly the fingers and feet, a picture similar to a fungous infection, and then the lesions blossom into a lichen planus. Some of the patients have lost a great deal of weight. As far as atrophy is concerned, some infections go on to atrophy and some go on to hypertrophic lesions.

DR. FRANCIS P. MCCARTHY, Boston: I am interested to know whether the cases of lichen planus were confined to the New Guinea Area. This island is recognized as one having the most enervating climate in the South Pacific, and combat service over a long period is attended with physical exhaustion, mental depression and loss of weight.

MAJOR EARL A. GLICKLICH, M.C., A.U.S.: So far as I recall the cases of this group, I have seen only those that have come from New Guinea. I have not seen them come from other areas. What Dr. McCarthy says is true; there is probably more depression in that area, but some of these eruptions developed immediately, those, for example, in these 3 boys; I do not believe that they were in that area more than eight months to a year. They have not lost too much weight, but others at the hospital have lost 40 to 60 pounds (18 to 27 Kg.). I do not know whether the eruption is caused by the diet or whether it is on a basis of nerves. I am inclined to sway to Dr. Lane's way of thinking that this dermatosis is of a bacterial or a virus nature which as yet cannot be determined.

DR. C. GUY LANE, Boston: Do you know what the earliest incubation period is?

MAJOR EARL A. GLICKLICH, M.C., A.U.S.: I cannot answer that definitely, but I think that it is within a period of six months.

DR. VINCENT J. RYAN, Providence, R. I.: Would you say that the vast majority of cases occur in New Guinea?

MAJOR EARL A. GLICKLICH, M.C., A.U.S.: Yes, I should.

Lupus Erythematosus and Dermatitis Venenata. Presented by DR. C. GUY LANE, Boston.

A. B., a 36 year old man, an Italian welder, presented lesions on the face, of two years' duration, and an acute eruption, of three weeks' duration, involving the chest, back, axillas, genitalia and perineum. Photophobia was intense. He had been receiving gold sodium thiosulfate intravenously for the past two years. Two weeks after the onset of the acute weeping exacerbation, the administration of gold sodium thiosulfate was discontinued.

Examination reveals maculopapular, brilliant red and oozing lesions involving the eyelids, chest, upper portion of the back, axillas and scrotal and perineal areas.

Results of laboratory studies comprising blood count, urinalysis, nonprotein nitrogen tests and serum protein tests were within normal limits.

Colloid baths, moist boric acid compresses, antipruritic lotions and an antiseptic powder have produced little relief.

DISCUSSION

DR. FRANCIS M. THURMON, Boston: The atrophic changes, grayish scaling, erythema and butterfly-shaped eruption across the bridge of the nose and malar areas leave no doubt as to the diagnosis of lupus erythematosus. However, when the young man was questioned, he stated that the eruption, which developed elsewhere, started in the scrotal-groin-thigh areas and the axillas. The character of this dermatitis, which is red, macular, papular and moist, suggests a dermatitis venenata due to resin-finished facing in cotton underwear. As is known, the cause of this dermatitis was found to be an ester gum made from abietic acid and a special type of alcohol used in the facing of underwear, shirts and pajamas. This patient has a mixed type of eruption. I doubt that the red, round and oval macular and papular lesions on the extremities are a dermatitis medicamentosa precipitated by gold sodium thiosulfate.

DR. GEORGE E. MORRIS, Boston: This man is a welder. It is well known that welders are exposed to ultraviolet light (this man stated that he has had two flash burns); I wonder about the advisability of permitting a man with lupus erythematosus to work as a welder. We have had 1 case, that of a Negro girl who died of lupus erythematosus and who had no trouble until she began welding. How do the members of the society feel about this problem?

DR. FRANCIS P. MCCARTHY, Boston: Exposure to ultraviolet radiation is generally accepted as being an activating factor in lupus erythematosus.

DR. C. GUY LANE, Boston: When I suggested that this patient be shown, I intended to present the case for diagnosis rather than to have a definite

diagnostic statement. He was to be shown as a patient with lupus erythematosus, with the question as to whether there was a superimposed contact dermatitis, seborrheic dermatitis or a dermatitis medicamentosa. I might say that the picture has changed a good deal since his present entry to the hospital. The treatment was followed by Dr. Maurice M. Tolman and more recently by Dr. Carl S. Sawyer. The patient had gold sodium thiosulfate, and, as I gathered from the history, an eruption developed on the scrotal area first; then, I think, he had two or three more additional treatments with gold after the original eruption developed and an increasing extension of the eruption and new areas, so that the gold was stopped. He had a phenol lotion, but I do not know whether or not he had something with salicylic acid. Then he had a moderate amount of scalp involvement. There was a question as to the etiologic factor. When he entered the ward, he was a "mess," with acute oozing red areas on the face, so that these areas of lupus erythematosus were well blocked out. There was a great deal of redness in the axillas and in the groins. That has subsided under boric compresses and relatively soothing treatment. I could not help feeling that the gold did not do him any good. I think that it tipped the scales unfavorably after the original exacerbation. I did not know until Dr. Morris mentioned it that he was a welder. My reaction to that would be that I know all the welders I know are shielded pretty well with their hoods. Probably occasionally they slip up. I think that their goggles are impervious to ultraviolet rays. I think that in the presence of lupus erythematosus he should not be exposed to ultraviolet rays and that he should have a different job.

Acne Vulgaris. Presented by Dr. George E. Morris, Boston.

R. G., a white male infant aged 9 months, presented an acneform eruption, of five months' duration. Examination revealed comedos, pustules and papules on the forehead and cheeks. Examination of the blood showed a hemoglobin content of 80 per cent and a leukocyte count of 7,500, with a differential count of polymorphonuclear leukocytes 75 per cent, lymphocytes 20 per cent, mononuclears 4 per cent and eosinophils 1 per cent. The urine was normal. Roentgenologic examination of the bones showed development consistent with that of a 2 year old child.

DISCUSSION

Dr. Leonard E. Anderson, Springfield, Mass.: I have seen frank comedos in perhaps 2 or 3 infants of this age and younger. They have never been so pronounced as this or well enough developed to be dignified with the name "acne vulgaris." With mild treatment, they improved.

Dr. C. Guy Lane, Boston: I have seen 1 other case, that of a child of 18 months, in which there were pronounced acne lesions. I have also seen 2 other cases of precocious development of acne in patients at a later age, about 10 or 12 years; the acne in both cases was extremely active. One of the patients later turned out to have a hypernephroma and the other turned out to have something which I suspect was hypernephroma, because operation on his kidney was performed, with a fatal outcome. I do not know that all children with a precocious development of acne have that happen to them but at least there are 2 cases of precocious development of severe acne in which that happened.

Dr. Walter F. Lever, Boston: I should like to ask if this child was treated with salves, first with one containing sulfur and then with one containing ammoniated mercury?

Dr. Jacob H. Swartz, Boston: I suggest a diagnosis of nevus comedonicus. It is not a typical case. In the few cases I have seen the eruption has been localized and has shown more miliary-like lesions with comedos. Of course, a dermatitis is superimposed, because the child has a dermatitis on his arms. I suggest a biopsy to see whether a diagnosis of nevus comedonicus rather than acne vulgaris could be established.

DR. LEONARD E. ANDERSON, Springfield, Mass.: Does not nevus comedonicus occur as circumscribed areas but not as diffuse involvement?

DR. GEORGE E. MORRIS, Boston: It is important to ask the mother the occupation of the father, for rashes similar to this have been seen in babies whose fathers have worked either with one of the chlorinated naphthalenes or with the diphenyls, which are used as insulating materials, especially on ships. In children comedos of the face develop if the father works with such materials and fails to change his clothing before coming home and holding the baby. Interestingly, the father works in the navy yard as an electrician but is an instructor and does not come in contact with any of the insulation materials. Roentgenograms show that the child has an abnormal bone age, which suggests an underlying endocrine cause for his trouble. To Dr. Lane's case I can add a third, that of a girl who had preadolescent acne and who finally was proved by operation to have bilateral adrenal cortical tumor. In her case, the diagnosis was not made until the age of 12, at which time all the epiphyses were united. The other endocrine gland which may be involved is the pituitary. More study on this case is necessary before the underlying cause of her eruption can be decided.

Neurotic Excoriations; Raynaud's Disease. Presented by DR. FRANCIS M. THURMON, Boston.

N. N., a white American housewife aged 46, presented lesions on the neck, chest and shoulder, which had been present intermittently during the past fifteen years. Following scarlet fever, itching lesions began to develop on the areas previously noted. The patient would "dig out" these lesions, thus relieving the itching, crawling sensation. Also, her fingers and toes have been blanching white and aching on exposure to cold for several years.

Examination reveals depressed small scars and a few freshly excoriated papules on the neck, chest and shoulder. Laboratory examination, including the Hinton, Wassermann (Kolmer) and Kahn tests of the blood revealed nothing abnormal, and examination of the urine, blood sedimentation rate and blood count gave normal results.

DISCUSSION

DR. JACOB H. SWARTZ, Boston: I remember that, as a student, Dr. Charles J. White used to label such cases "Pick's disease." More excoriations were seen on the upper portion of the back than on the chest. A better name is "neurotic excoriations." That explains the disease better than "factitia" when dermatitis factitia is considered as an external form of laceration. This patient has a history typical of Raynaud's disease, wherein her hands turned snow white on exposure to cold, with cramps. I think that it should be labeled Raynaud's disease with neurotic excoriations.

DR. FRANCIS P. MCCARTHY, Boston: Is there not a history of acarophobia in this case? The acarophobic patient deliberately picks at small particles of epithelial debris or dirt, believing that they are parasites, and excoriates himself as a result of self-inflicted trauma.

DR. C. GUY LANE, Boston: Does anybody know what has happened to the term "dermatoplasia" which was given to this condition at one time?

DR. FRANCIS M. THURMON, Boston: I was of the impression, since she so cheerfully admitted the fact, that she was conscious of what she was doing. She is fundamentally a nervous woman. She stated that there are itching sensations and sometimes there is a small papule or elevation or roughness of the skin; she is not happy until she digs that particular lesion, and then the itching disappears. The distribution is over the upper portion of the chest and shoulders. On the back, on areas she cannot reach, there are no lesions. We thought that this was an example of neurotic excoriations. There are occasional cases of dermatitis herpetiformis with sparse but symmetric distribution such as this patient presents in her scars. It can be localized to particular areas of the body, but the absence of typical

lesions of dermatitis herpetiformis led to the diagnosis of neurotic excoriations. Raynaud's disease involving the fingers and toes is evident.

A Case for Diagnosis (Dermatitis Factitia? Gumma of the Right Great Toe and Chronic Osteomyelitis of the Right First Metatarsal and Left Tibia? Epithelial Sinus?). Presented by DR. BERNARD APPEL, Lynn, Mass., and DR. GEORGE E. MORRIS, Boston.

J. M., a white woman, a 47 year old clerk, presents lesions of the right great toe and left tibia, of approximately twenty-eight years' duration. The onset was marked by a blister on the right great toe, which became infected and apparently healed within three weeks. Frostbite in the toes the following winter was characterized by edema, purplish discoloration and desquamation. During the subsequent eight years, the right great toe appeared "inflamed," and a continuous burning sensation was noted. During the eighth year, the toe became ulcerated; it was treated, and it healed within six weeks. During the next five years, the ulceration recurred on three occasions and healed completely; on the fourth occasion it remained open. Also throughout this twenty-eight year period, an osteomyelitis of the left tibia has been present. Eight years ago an examination of the cerebrospinal fluid was made, and it was reported normal.

Examination reveals a red, granulating, nonpainful, sharply demarcated ulceration of the right great toe, which is surrounded by sclerodermatous scarring. A large draining sinus of the midportion of the left tibia is present.

The Hinton reaction of the blood was negative. The hemoglobin content was 12.5 Gm., and the leukocyte count 12,400, with a differential count of polymorphonuclears 65 per cent, lymphocytes 32 per cent, large mononuclears 1 per cent and eosinophils 2 per cent. At examination the urine was normal. The blood cholesterol determinations were 349 and 264 mg. per hundred cubic centimeters. Fasting blood sugar was 87 mg. per hundred cubic centimeters. The congo red test elicited a negative reaction. The basal metabolic rate determination was minus 11 per cent. Staphylococcus aureus, Streptococcus hemolyticus, Bacillus pyocyaneous and Bacillus proteus were obtained by cultures from each lesion. Roentgen ray examination of the toe showed irregular thickening of the cortex of the first metatarsal, suggesting syphilis, and a cystlike degeneration of the distal end of the great toe. An old destructive process involved the proximal phalanx of the second toe. A localized osteomyelitis and cortical thickening of the lower portion of the left tibia, suggesting syphilis, was present. A biopsy of the lesion of the right great toe showed acute and chronic inflammation with ulceration and no evidence of gumma.

Potassium iodide, 30 minims (1.85 cc.) administered three times daily, produced no change. The lesion of the toe appears improved under the local application of tyrothricin.

DISCUSSION

DR. AUSTIN W. CHEEVER, Boston: I did not see any evidence of syphilis. I am not ready to offer a diagnosis. I do not know that all these things can be put together under one diagnosis.

DR. FRANCIS P. MCCARTHY, Boston: I do not remember seeing the histologic section, but I do know that with a lesion with a surface layer of granulomatous tissue it is desirable to get a representative piece of tissue for biopsy and to cut deep enough to include tissue underlying the inflammatory zone of granulation tissue. I do not know whether or not a representative biopsy was presented in this case.

DR. WALTER T. GARFIELD, Boston: I agree with Dr. Cheever. I could not see anything of a syphilitic nature. It seemed to me that there was a possibility of a low grade infection, with granulomatous tissue forming. That is as far as I should go.

DR. FRANCIS M. THURMON, Boston: I saw evidence of syphilis in the roentgenograms of the bones of the toes. The right great toe showed periostitis. The

midphalanx of the left second toe showed areas of rarefaction and bone destruction. In other words, there is formation of bone and destruction of bone going on in a chronic lesion which certainly can be interpreted roentgenologically as due to syphilis. As judged from the clinical appearance of the lesion and its indolent granulomatous character, syphilis is indicated. I also believe that there is present an element of malignancy and that if response to fever therapy should be negligible, amputation should be considered.

DR. FRANCIS P. MCCARTHY, Boston: Did you have a chance to see the roentgenograms in this case? Were you able to make any interpretation?

DR. AUSTIN W. CHEEVER, Boston: My feeling was that syphilis was not present. I was not ready to make a diagnosis.

DR. C. GUY LANE, Boston: May I ask if the patient had any antisyphilitic treatment?

DR. GEORGE E. MORRIS, Boston: She had some bismuth and a few doses of oxophenarsine hydrochloride but not any intensive antisyphilitic therapy. I was uncertain as to whether it was syphilis.

DR. FRANCIS M. THURMON, Boston: In syphilis of the bone, serologic reactions of the blood for syphilis are notoriously negative; likewise, the results of mixed chemotherapy are often disappointing. It is amazing what fever therapy will do in a patient of this type. In a patient so hospitalized, at least fever therapy along the lines of foreign protein administered intravenously can be carried out.

DR. WALTER F. LEVER, Boston: I want to suggest that a larger specimen be taken for histologic examination. The slide showed only granulation tissue, but I am sure that something more will be found if a deeper incision is done.

DR. ALFRED HOLLANDER, Springfield, Mass.: I believe that the lesions are caused by artefacts. Two new lesions are seen in this case, and I believe that these lesions are a result of picking or scratching. Such cases are seen frequently. There are many persons whose skins respond to intense scratching with scaling and pigmentation. Cases of such eruptions are described in the literature, and I think that a few of them are illustrated in the "Corpus Iconum Morborum Cutaneorum" (Leipzig, Johann Ambrosius Barth, 1938) and are called "pathomimia."

Keratitis, Syphilitic, Congenital. Presented by DR. LEO KORETSKY, Chelsea, Mass.

M. D., an Irish housewife aged 45, presented an inflammation of the right eye, which was of four weeks' duration. The onset was marked by redness, increased lacrimation, pain, photophobia and blurring of vision. There was no history of early syphilis. The family history was inadequate; one brother was living and well in Ireland, and her father and mother were deceased there.

Examination reveals an injection of the conjunctiva and sclera of the right eye. Her hearing is normal. Six lower front teeth are present; the remainder had been extracted at an early age.

The Hinton, Wassermann (Kolmer) and Kahn reactions of the blood were repeatedly positive. The urine was normal.

Improvement was noted following two treatments with bismuth subsalicylate.

DISCUSSION

DR. AUSTIN W. CHEEVER, Boston: I found no proof of congenital syphilis. There were six blood tests reported positive for syphilis, which seems to show that she has syphilis, and the age of 45 is not out of bounds for the interstitial keratitis to appear. I had 1 patient, aged close to 40, with a similar disease in the old South Department for Infectious Diseases of the Boston City Hospital. Dr. Stokes has reported 2 or 3 cases of interstitial keratitis occurring late in life. I am willing to accept that diagnosis.

DR. G. MARSHALL CRAWFORD, Brookline, Mass.: Has there been a slit lamp examination?

DR. FRANCIS M. THURMON, Boston: Not yet.

DR. G. MARSHALL CRAWFORD, Brookline, Mass.: I think that there have been cases reported in which aribinoflavinosis and vitamin E deficiency were found in which the ocular changes were indistinguishable from the interstitial keratitis of congenital syphilis but they could be differentiated by slit lamp examination. That should be done, although the patient shows no other evidence of syphilis.

DR. FRANCIS M. THURMON, Boston: This patient was seen in consultation by Dr. Joseph J. Skirball, chief of the eye clinic at the Boston Dispensary. He made a diagnosis of interstitial keratitis. The thought that a riboflavin deficiency could produce an interstitial keratitis is intriguing. Repeated serologic reactions of the blood have been positive for syphilis. The patient has received only a few injections of bismuth, and with those injections there has been a definite improvement in the interstitial keratitis. I believe that this is congenital syphilis, since with that entity the greatest frequency of interstitial keratitis is seen. I thought that this case was particularly interesting because of the onset of the disease in a patient at the age of 45.

A Case for Diagnosis (Syphilitic Ulcer?). Presented by DR. GEORGE SCHWARTZ, Malden, Mass.

M. H., a Negro man aged 66, presented an ulceration, of ten years' duration, involving the left leg and discrete round and oval crusted lesions, of two years' duration, involving the groins, abdomen and chest. At the onset the ulcer of the leg was small, and it healed under conservative treatment. However, it recurred in 1943 and has grown progressively larger.

Examination reveals a large ulceration over the anterior surface of the left leg. It is comprised of clean granulation tissue with well defined circinate margins which are surrounded by deep cicatrices. The lesions of the groin, abdomen and anterior portion of the chest are discrete, circinate and crusted.

Examination of the blood shows a hemoglobin content of 9.5 Gm. and a leukocyte count of 5,900. The results of the examination of the urine were normal. Nonprotein nitrogen was 27 mg. per hundred cubic centimeters. A roentgenologic examination of the long bones of the left leg showed periostitis.

DISCUSSION

DR. AUSTIN W. CHEEVER, Boston: I do not agree with the diagnosis of syphilis in this case. There is decided symmetric distribution of the lesions under the breasts and down the flanks, but to my mind that is entirely different from the type of border in tertiary syphilis. It is not ulcerated as far as I can see, and there are even sweeping curves. I think that the ulcer could possibly be of a syphilitic nature, but I rather doubt it. I am inclined to suggest a vitamin deficiency, a pellagra of an unusual sort. I have seen 1 case of pellagra with the general type of lesion that this patient shows, a case of eruption around the breasts in a woman who ate practically nothing but spaghetti and tomatoes and who improved on a normal diet fortified with vitamin B.

DR. ADRIAN H. SCOLTEN, Portland, Maine: I asked her about her diet. She said that she ate no lamb, beef, pork or chicken. When I asked her what meat she did eat, she answered, "Occasionally a little hog meat." I discovered that she did not like milk. Based on an experience of six months in a hospital for Negro patients down South, I should say that the disease in this patient resembles malnutrition, which Dr. Joseph Grindon Sr. would call pellagra.

DR. GEORGE SCHWARTZ, Malden, Mass.: I understand that the roentgenograms show a periostitis of both tibias.

A Case for Diagnosis (Neurofibromatosis with Sarcomatous Changes?). Presented by DR. GEORGE SCHWARTZ, Malden, Mass.

P. P., a white schoolboy aged 17, presented cutaneous tumor masses of generalized distribution. Since childhood, several soft tumor-like masses have been present on the left shoulder, back and right leg.

Lentigenes are generalized. Of the profuse and generally distributed pigmented macules which vary in size and shape, some are coffee colored and others are a dark brown. Soft, oval, sessile masses are variously distributed over the cutaneous surface. Numerous, deep, firm, subcutaneous masses are present, involving especially the right arm and neck.

Laboratory studies, including blood counts, agglutinations and urinalysis, were normal. The Hinton reaction of the blood was negative.

DISCUSSION

DR. ALFRED HOLLANDER, Springfield, Mass.: I do not believe that true von Recklinghausen's neurofibromatosis can change into a malignant growth.

DR. WALTER F. LEVER, Boston: I want to take exception to that statement. I have encountered 2 cases of von Recklinghausen's neurofibromatosis in which sarcomatous lesions developed. One I saw recently. In this case a lesion of the thigh was first examined histologically eight months ago and showed von Recklinghausen's neurofibromatosis. Ten months later the lesion began to grow rapidly and again was examined histologically. It showed sarcomatous changes (Case 30401, *New England J. Med.* **231**:496 [Oct. 5] 1944).

DR. GEORGE SCHWARTZ, Malden, Mass.: The patient has a similar lesion on his hand. A biopsy was taken, but the report has not been returned.

Dermatitis Exfoliativa. Presented by DR. EDWARD A. LAFRENIERE, Arlington, Mass.

S. B., a Jewish man aged 54, a florist, presented a generalized eruption, of ten months' duration. The onset was marked by lacerations of the hands by rose thorns, which became secondarily infected and were bathed with saponated solution of cresol. Erythema and pruritus resulted, which shortly thereafter became generalized.

Examination reveals generalized erythema, edema and scaling. The hands and feet are fissured. The nails are dystrophic and opaque. There has been complete loss of nails on three occasions since the patient's admission to the hospital. Pruritus is intense.

Results of a blood examination showed a hemoglobin content of 83 per cent and a leukocyte count of 10,300 with a differential count showing polymorphonuclears 76 per cent, lymphocytes 13 per cent, mononuclear leukocytes 1 per cent and eosinophils 10 per cent. The nonprotein nitrogen of the blood was 30 mg. per hundred cubic centimeters. The Hinton reaction of the blood was negative, and a urinalysis was normal.

There was no response to colloid baths, lotions or ointments topically applied or the intravenous administration of calcium gluconate. Moderate improvement was noted after roentgen therapy to the back and ankles.

DISCUSSION

DR. FRANCIS P. MCCARTHY, Boston: This is probably the most interesting case shown today. It brings up the question of whether a dermatitis that starts as contact dermatitis or dermatitis venenata and gradually spreads either by sensitization or by other means can become dermatitis exfoliativa. It is generally appreciated that the vast majority of cases of dermatitis venenata are caused by endogenous conditions, such as those due to the arsenicals or various drugs. However, there are occasional occupational dermatoses that begin as local processes that may end as generalized dermatitis exfoliativa.

DR. C. GUY LANE, Boston: In our ward a number of cases are seen in which the original lesion is a localized lesion which may be the result of trauma or a low grade infection or simply an irritation which, as time goes on, under the impetus of therapy becomes wider and eventually becomes more generalized. I think that those are seen more frequently in the winter than at any other time. I have no hesitation in saying that exfoliative dermatitis can arise from contact, from therapy or from one's occupation. I do not believe that it needs to have an endogenous origin. As far as the occupational factor goes in this state, not only the occupational disease as such is subject to compensation, but the complications of the occupational disease may be compensatory as well as the cutaneous disease exaggerated by the occupation. Both may come under the law in the states in which the schedules apply and the disease is listed. I do not think that applies in all states; I do not know how many states there are whose interpretation is as broad as it is here.

DR. FRANCIS M. THURMON, Boston: The cutaneous response, especially on the hands, fingers and palms, certainly was a keratoderma not unlike some rare cases of keratosis blenorrhagica which are seen. Penicillin is a specific therapy against gonococci, and I wonder what the response of this patient would be to penicillin therapy. I think that it might be worth trying.

DR. C. GUY LANE, Boston: In these cases, I am much interested in what the first therapy has been. I do not care whether the eruption begins on the ankle or on the hand. I think that the early therapy, particularly in these days of sulfonamide sensitization, often could explain a good deal if it could be known. The sensitization by the early therapy often plays a part in the general sensitization that results in dermatitis exfoliativa in the end.

DR. EDWARD A. LAFRENIERE, Arlington, Mass.: I have not seen the patient for three months, and he has improved. The eruption will probably flare up again in the next three months.

A Case for Diagnosis (Moniliasis of Groins and Submammary Folds?).
Presented by DR. GEORGE E. MORRIS, Boston.

E. M., a white American housewife aged 50, presented lesions, of four weeks' duration, which primarily involved the genitocrural folds and breasts. The present illness began with pruritus vulvae. Soon thereafter lesions appeared on the genitocrural folds, trunk and extremities.

Examination reveals a suffused, moist, erythematous eruption and partial desquamation of the skin on the perineum, medial portion of the thighs, pubis and submammary folds. Macular, papular and dusky red, crusted lesions varying from 0.5 to 1.5 cm. in diameter, some of which show scaling, are scattered over the arms and back.

Aside from a normal urinalysis, other laboratory studies have not been reported.

DISCUSSION

DR. MILDRED RYAN, Brockton, Mass.: I thought that she had a seborrheic type of psoriasis. Her scalp is covered with thick scales. She has plaques on the elbow.

DR. ALFRED HOLLANDER, Springfield, Mass.: I think that the obesity and the resulting perspiration, together with a possibility of diabetes, are the etiologic factors in this case.

DR. JACOB H. SWARTZ, Boston: I think that the diagnosis of moniliasis should be made with much caution. The diagnosis should be checked by culture, and Monilia albicans must be grown, since other nonpathogenic yeasts may be present but play no etiologic role. I did not see the lesions of the elbows and the scalp, but I got the impression that this woman has intertrigo with secondary bacterial infection, perhaps on a diabetic basis.

Dermatitis Medicamentosa (Due to Sulfadiazine). Presented by DR. GEORGE E. MORRIS, Boston.

C. P., a white Italian housewife aged 55, presented an eruption, of six days' duration, involving the neck and all extremities. The lesions appeared after the administration of sulfadiazine lozenges and a medicine containing codeine, acetylsalicylic acid and acetophenetidin, which were prescribed for a sore throat.

Examination reveals erythematous, painful, subcutaneous nodules involving chiefly the extensor surfaces of the legs. Small, oval, erythematous macules are seen on the anterior surface of the neck. Red, slightly elevated plaques, 5 by 7 cm., are symmetrically distributed on the arms. The joints of the fingers are swollen, and purple discoloration is present on the knuckles.

Examination of the blood revealed a hemoglobin content of 10 Gm. and a leukocyte count of 7,300, with a differential count of polymorphonuclears 76 per cent, lymphocytes 23 per cent and mononuclear leukocytes 1 per cent. The blood sedimentation rate in twenty minutes was 1 mm. and in one hour 7.5 mm. Examination of the urine showed p_H 6.5 and specific gravity 1.029. There was no albumin and no sugar, but bile was present (1 plus). The urinary sediment contained 8 to 10 leukocytes per high power field and a few granular casts.

DISCUSSION

DR. JACOB H. SWARTZ, Boston: She had sulfonamide pills, and I understand that codeine, acetylsalicylic acid and acetophenetidin were used just prior to the eruption, whereas the sulfonamide drug was stopped four days before the eruption appeared.

DR. GEORGE SCHWARTZ: On December 4, she had grip. At that time she was given two powders containing codeine, acetylsalicylic acid and acetophenetidin. On December 7 she had a sore throat and was given sulfadiazine lozenges. She was Seen again on December 9. She had a lesion on the forearms five days after she was first seen. On December 7, no lesions were seen on the forearm. The patient took only 3 lozenges of sulfadiazine at that time.

DR. LEON BABALIAN, Portland, Maine: It is neither an allergic reaction nor a toxic reaction. I have a feeling that it is a biotropic reaction of Milian, the infective agent of erythema nodosum having been reactivated by a drug.

DR. MILDRED RYAN, Brockton, Mass.: There was a case at the Massachusetts General Hospital similar to this one, in which purpuric lesions not unlike those of this patient developed as a result of the use of sulfonamide drugs.

DR. JACOB H. SWARTZ, Boston: I am going to raise issue on the question of activating the relative sensitivity to a drug. An erythema-nodosum-like eruption can be obtained by the administration of ethyl iodide. The patient did not have any bacterial infection prior to the administration. She had a fungus infection, and no fungus produces such lesions and yet I saw erythema-nodosum-like lesions following the administration of iodide. I naturally assumed that it was the iodide and not the activation of the organism. I should favor the diagnosis of activation of it by the drug.

DR. ALFRED HOLLANDER, Springfield, Mass.: Some of the lesions, especially on the patellar region, appeared to me to be lesions of a fixed drug eruption. Those lesions should be separated from the erythema nodosum lesions in the middle third of the leg, especially the one on the patella.

DR. GEORGE E. MORRIS, Boston: If those are erythema-nodosum-like lesions, they are probably not due to sulfadiazine. As far as I know, the only sulfonamide drug which causes such lesions is sulfathiazole. Therefore the talk should be about codeine, acetylsalicylic acid and acetophenetidin unless some one has seen these lesions caused by another drug of the sulfonamide group.

DR. G. MARSHALL CRAWFORD, Brookline, Mass.: There is a first time for everything.

Dermatitis Medicamentosa (Due to Arsenic). Presented by DR. EDWARD A. LAFRENIERE, Arlington, Mass.

F. T., a white American woman aged 33, presented a generalized dermatitis of two weeks' duration. The patient had been treated by her local physician with intravenous injections for syphilis at seven day intervals over a period of a month. The second treatment was followed by nausea, vomiting, fever and chills. After the third treatment a transient generalized eruption resembling measles appeared, which lasted only four days. The fourth treatment was followed by nausea, vomiting, chills and fever; the morbilliform rash recurred. Seven days later an intramuscular treatment was administered. The eruption, which was still present, became accentuated and was characterized by heat, edema, dryness and desquamation especially on the palms and soles.

The entire body surface is glistening red, warm, dry and scaling. The palmar and plantar skin has desquamated in large plaques, leaving raw, red, denuded surfaces.

The Hinton reaction of the blood was positive. Examination of the blood showed a hemoglobin content of 10 Gm. and a leukocyte count of 11,850; the differential count showed polymorphonuclears 54 per cent, lymphocytes 25 per cent and eosinophils 21 per cent.

Treatment has comprised starch baths, calamine lotion and moist boric acid dressings to the face and hands. Caffeine, hot drinks and high vitamin diet have been administered.

DISCUSSION

DR. C. GUY LANE, Boston: One thing that interested me in the history was the fact that after two injections following the beginning of the eruption it quieted down and then the intramuscular injection, which I suppose was bismuth, was given. Is that true?

DR. JACOB H. SWARTZ, Boston: There was an intramuscular injection.

DR. C. GUY LANE, Boston: This is a case of an activation by another drug that sounds like bismuth. I think that happens in cases of this type and occasionally bismuth is a contributing factor in the cases of jaundice as well.

DR. FRANCIS P. MCCARTHY, Boston: It might be said that it is the rule rather than the exception in my experience with the cases of fatal arsenical poisoning for the practitioner to use the maximum dose rather than the small dose which is administered by hospital clinics. Usually in the hospital group neoarsphenamine is administered in 0.3 Gm. and occasionally in 0.45 Gm. amounts, whereas in general practice 0.9 Gm. is frequently used as a routine since it is considered the proper maximum dosage and is so listed on the package.

CHICAGO DERMATOLOGICAL SOCIETY

Lester M. Wieder, M.D., *President*

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Dec. 20, 1944

Idiopathic Macular Atrophy. Presented (by invitation) by DR. S. ROTHMAN and DR. HELEN KRYSA.

B. B., a 50 year old housewife, born in Lithuania, was admitted to the neurology service of Albert Merritt Billings Hospital on Dec. 10, 1944 for the investigation of a sciatic type of pain on the left side of one year's duration.

Twelve years ago the patient noticed a discoloration in the sternal region. This change of color was not preceded by trauma or by any inflammatory sign or symptom. Gradually this "soft" lesion increased in size and became redder. Eight

years ago a similar lesion developed on the left upper part of the back. Two years ago two more lesions made their appearance on the lower left side of the chest, and one year ago three or four lesions appeared on the right shoulder.

All the lesions are sharply circumscribed. They display loose atrophy with cigaret paper folding, and on palpation a defect can be felt. Some of them are surrounded with a faint reddish blue hue. The smaller lesions, particularly those on the sides of the chest, show considerable herniation. Most lesions are depigmented, but tiny hyperpigmented spots also are seen within the large lesion of the sternum.

The sections stained for elastic fibers showed atrophic epidermis, lack of appendages and almost complete absence of elastic fibers (Virchow's stain).

The Wassermann and Kahn reactions of the blood were negative. The blood and differential counts and the urine were normal. The basal metabolic rate was —8 per cent. The roentgenogram of the chest showed slight enlargement of the left ventricle. The electrocardiogram was within normal limits. The myelogram showed a filling defect in the segments of the first and second lumbar vertebrae, suggesting an intramedullary tumor, and also a filling defect in the fourth and fifth lumbar vertebrae, suggesting a ruptured disk.

DISCUSSION

DR. M. H. EBERT: For many years I have been interested in seeing a unique case of anetoderma as described by Jadassohn. In his original article the final result was exactly what is seen today in this patient. At some time early in the history of the lesion it was inflammatory and infiltrated. Dr. Rothman stated that some of the lesions have had an areola of slight erythema but no definite infiltration. Perhaps he will tell us whether the eruption is an anetoderma of Jadassohn.

DR. MAURICE OPPENHEIM (by invitation): About three months ago I presented to this society a classic case of anetodermia erythematosa of Jadassohn. All the three stages of the disease, which I described in my article on this disease in the *Archiv für Dermatologie und Syphilis* about forty years ago, were present: the stage of erythema circumscriptum; the stage of forming rings with a wrinkled center, and the last stage, the formation of hernia-like protuberances, which, like a hernia, are removable by digital pressure.

I think that the case presented by Dr. Rothman is one of macular dermatitis atrophicans, starting twelve years ago, but there is present only the last stage of this disease. The hemorrhagic changes remind me of the case which Drs. Schweninger and Buzzi described as one of a macular cutaneous atrophy. In my papers about the diffuse and macular cutaneous atrophy I stressed the opinion that the case of Drs. Schweninger and Buzzi was one of von Recklinghausen's disease with resorption of the tumors in certain areas.

DR. HAMILTON MONTGOMERY, Rochester, Minn.: I think that this disease could be called an anetoderma of Jadassohn. One must keep in mind the fact that macular atrophies arise secondary to syphilis, leprosy and many other dermatoses. Multiple benign tumor-like new growths of Schweninger and Buzzi are not related to von Recklinghausen's disease (neurofibromatosis). Macular atrophic lesions in von Recklinghausen's disease histologically still reveal evidence of neurofibromatosis and do not show the histologic changes of the group of macular atrophies.

DR. FRANCIS E. SENEAR: This society had an experience that illustrated the confusion that may exist in such a situation. Many years ago Dr. Pusey described the first case of tumor-like new growths recorded in this country. That was a typical example of that disorder. Some years later there was presented from the University of Illinois a Negro girl who had lesions that were clinically exactly the same in appearance as those in the case described by Dr. Pusey. I also saw the first patient. She had many herniated lesions underneath the scapula, which were clinically of the Schweninger-Buzzi type. In the case of the girl who was presented some years later, everybody who discussed it agreed that it was a typical case of benign tumor-like new growths. About five years later Dr. Oliver showed

a presumably new patient with a typical Recklinghausen's disease. She had café-au-lait spots. It was eventually found that she was the same patient presented several years previously in an early stage, with the diagnosis of Schweninger-Buzzi disease; but at the second presentation the picture was typical of neurofibromatosis.

DR. H. E. MICHELSON, Minneapolis: I had the privilege of seeing Dr. Pusey's patient, and I also had the patient on whom Dr. Sweitzer reported. I do not believe that the Schweninger-Buzzi condition should be called a disease. It is merely an observation, and for my own part I think that it belongs to the macular atrophies.

DR. S. ROTHMAN (by invitation): I feel sure that Jadassohn would have called this eruption anetoderma, because I saw a patient with a disease identical with this one that he diagnosed as such. On the other hand, I think that the initial erythema in this disease has been overemphasized in the literature. There is a slight initial erythema, but it appears rather early, as Dr. Oppenheim said, and disappears soon. It is rather depressing that so little is known about the pathomechanism and cause of idiopathic atrophies.

Raynaud's Disease. Presented by DR. DAVID V. OMENS and (by invitation) DR. HAROLD D. OMENS.

F. S., an Italian-American shoemaker aged 58, presents an eruption of three years' duration involving the distal areas of the extremities. The fingers and toes are of a dusky reddish color and are cold to the touch. There are pinhead-sized necrotic spots which occur at irregular intervals, especially during the cold season of the year, although the patient is never free from pain, even in the summer.

In November 1941 the right great toe was involved in a similar process which resulted in sloughing of the terminal segment of the bone, after which healing took place.

The patient was hospitalized at Cook County Hospital, and the results of all examinations were essentially within normal limits.

DISCUSSION

DR. RUBEN NOMLAND, Iowa City: Raynaud's disease occurs almost always in women and is practically unknown in men. This man had a much diminished pulsation in one of the arteries at the wrist, and I could not feel the pulse in his dorsalis pedis artery. I think that he has arterial occlusive disease, probably Buerger's disease, with vasospastic symptoms and changes from arterial occlusion.

DR. S. ROTHMAN (by invitation): I want to call attention to the confusion that exists in the minds of nondermatologic physicians particularly in the differentiation of Raynaud's disease and scleroderma with Raynaud-like signs ("acrosclerosis"). The latter is a generalized disease of the connective tissue and as such also involves the connective tissue of blood vessels, whereas Raynaud's disease is a purely arterial disease. Raynaud's disease leads to the formation of gangrene within one year after the onset, whereas acrosclerosis does not. Sympathectomy had deleterious effects in cases of acrosclerosis.

Sycosis (Generalized). Presented by DR. DAVID V. OMENS and (by invitation) DR. HAROLD D. OMENS.

S. L., an Italian-American man aged 21, presents a pustular infection involving the face, axillas and anogenital area, which has been present for seven years.

The case is presented because of the widespread involvement and to stimulate discussion on therapeutic possibilities.

DISCUSSION

DR. FRANCIS E. SENEAR: There was an article on penicillin in the *British Medical Journal*, which was abstracted in one of the columns of a local paper. On reading the summary, one found that sycosis barbae was about the only thing that

responded to penicillin. I have not had experience with this drug, but perhaps it would be worth trying.

DR. JAMES H. MITCHELL: I tried penicillin locally in a mixture of Aquaphor (an oxycholesterol-petrolatum ointment base) and had excellent results. I used it in the office a few times. There was a patient here in the clinic, who responded to penicillin after having resisted everything. I think that the use of penicillin is worth a trial.

DR. MAURICE OPPENHEIM (by invitation): I treated this patient for two years with roentgen rays applied to his face. He is much improved today. At the same time he had a severe seborrheic dermatitis on the scalp, eyebrows and pubic area. I do not think that dermatologists have the right to call such cases ones of sycosis generalisata, since this name is limited to the beard. What one has in this case is a superinfected seborrheic dermatitis, probably with staphylococci.

DR. HERBERT RATTNER: At the local Army hospital, I saw a patient with severe sycosis barbae treated with injections and local applications of penicillin, with excellent results, but Major Saffron informs me that the treatment does not give good results in all cases.

DR. M. H. EBERT: I am inclined to agree with Dr. Oppenheim that the primary disease in this case is seborrheic dermatitis or eczema and that the infection is secondary. I suggest the use of 40 per cent sulfur paste.

DR. DAVID V. OMENS: I am grateful for the amount of discussion on this case. I have treated several patients having coccogenous sycosis with penicillin, and I have not had good results in these cases or in cases of acrodermatitis chronica continua (Hallopeau). I am sure, however, that sulfur paste offers possibilities which warrant a trial.

MAJOR M. H. SAFFRON, M. C., A. U. S.: At the recent convention of the Southern Medical Association Dr. Morginson reported on 7 cases of sycosis vulgaris treated by penicillin intramuscularly and also by the local use of penicillin. In all 7 cases there were complete failures in response to penicillin therapy. I, myself, have had occasion recently to administer penicillin in 4 cases of generalized sycosis vulgaris of the same type as presented here today. In no instance did I secure an entirely satisfactory result, even though doses as high as 1,000,000 units of penicillin were given. In 1 case in which the organism was reported as being highly sensitive to penicillin the disease had previously resisted a course of penicillin administered intramuscularly. My course, the second one, was likewise ineffective. I personally am not convinced that penicillin is of great value in the treatment of chronic sycosis vulgaris.

Excessive Oiliness of the Skin and Paralysis Agitans. Presented by DR. THEODORE CORNBLEET and (by invitation) DR. DAVID COHEN and DR. H. C. SCHORR.

In a 51 year old white man there developed an excessive oiliness of the scalp and face four years ago and ten years after the onset of his symptoms of parkinsonism. The patient is presented for his interest to dermatologists, to illustrate the known relationship between nerves and skin in this syndrome.

DISCUSSION

DR. HERBERT RATTNER: Some years ago a group of cases of Parkinson's disease was reported, in which there was a peculiar hyperpigmentation on the face. In every one of the patients the striking feature was the extreme oiliness of the face. At that time I examined a group of some 35 patients, and every one of them exhibited a very oily skin.

DR. S. ROTHMAN (by invitation): To explain the phenomenon of the "ointment face," the theory was advanced that there is an inhibitory center of sebaceous secretion in the midbrain and that if this center is destroyed by encephalitis a free

flow of sebum sets in. This theory was supported by experiments of Perutz, who destroyed the midbrains in rabbits and obtained great increase in the secretion of fat from the skin.

DR. THEODORE CORNBLEET: Dr. Rothman touched on the theory concerning the control of the secretion of oil. It is not known just exactly where that is. Various controls have been postulated for the control of the secretion of oil. Prominent among these is that which uses the endocrine glands. There is overlapping of both nerves and endocrine glands in many situations undoubtedly, as in diabetes insipidus. The part of the brain near or at the pituitary stalk is thought to be at fault, and this in turn influences the neighboring gland. In paralysis there is supposedly a release of extrapyramidal mechanisms which exaggerate the actions of parts concerned. The sebaceous glands fall into this group.

A Case for Diagnosis (Lymphoblastoma?). Presented by DR. M. H. EBERT and (by invitation) DR. M. S. KAGEN.

F. M., a white man aged 45, presents a generalized itching eruption. Aside from recurrent attacks of ringworm of the feet with a few transient vesicles on the fingers, he had no serious trouble until fifteen months ago. At that time, on the advice of a friend, he used packs of saponated solution of cresol on the feet. A weeping dermatitis appeared on the hands. After the use of sulfathiazole ointment the dermatitis soon became generalized. Since then he has been hospitalized four times in Los Angeles and has been in the Cook County Hospital, Chicago, for six weeks. Every time he returned to his home, apparently completely well, the eruption would break out again overnight. The present attack, of eight months' duration, has been continuous with exacerbations. In the Los Angeles General Hospital he had many scratch and patch tests. All the tests elicited negative reactions with the exception of the one with soap. In August, in Los Angeles, a biopsy was made of the skin and lymph node, but the pathologist reported no specific conditions. He has had a moderate amount of roentgen ray therapy and considerable ultraviolet ray therapy. His itching is severest when he is warm in bed at night. He gives no history of atopy. One intravenous injection of typhoid vaccine raised his temperature to 101 F. but brought no significant improvement. His condition today is considerably improved over what it was on his admission to the hospital. At present he has a generalized papular eruption with moderate infiltration. The papules tend to be grouped, especially on the upper part of the back and shoulders, where the groups are oval with the long axis along the bend of cleavage. On the backs of the hands the lesions are lichenoid. Many of the lesions have a brownish tint. There is a well generalized lymphadenopathy.

A hematologic examination made on Nov. 30, 1944 showed: hemoglobin, 87 per cent; neutrophils, 48 per cent; eosinophils, 21 per cent; lymphocytes, 21 per cent, and monocytes, 9 per cent.

On December 12 smears were made from bone marrow obtained by sternal puncture. The hematologist's report is as follows:

"The marrow is moderately cellular. Megakaryocytes appear to be normal. The count of nucleated red blood cells to the white blood cell count is approximately 1:3 or 1:4. There are large numbers of eosinophils, which probably represent a secondary phenomenon to a possibly underlying lymphoblastoma, evidence for which is found in the increased number of lymphocytes, some of which are extremely premature."

The pathologist's comment was that the sections indicated primary lymphoblastoma with eosinophilic reaction.

A biopsy section of the skin is presented.

DISCUSSION

DR. S. W. BECKER: I think that clinically this is a typical case of the Sulzberger-Garbe type of exudative neurodermatitis. The man is Jewish; he has been

working hard, and he had an eruption which cleared and then recurred. That is a typical history.

DR. S. ROTHMAN (by invitation): I have 2 cases on record of lesions simulating premycotic plaques of mycosis fungoides with generalized lymphadenitis and excessive eosinophilia in the blood and tissues. Intense generalized hyperhidrosis accompanied the intolerable itching. I wonder whether those cases as well as the one presented belong to the entity described by Sulzberger and Garbe. There is no histologic or hematologic evidence of lymphoblastoma in these cases.

DR. FRANCIS E. SENEAR: I think that in this case there is a good deal of resemblance to the disorder described by Sulzberger. It seems to me that the eruption is much more uniform in type than in the cases I have seen and in the ones demonstrated by Sulzberger at one of the meetings of the American Academy of Dermatology and Syphilology. He pointed out that in that disease an involvement of the forehead and of the external genitalia is a constant feature, and the history indicated that these parts had been involved in this case.

DR. HERBERT RATTNER: This case reminds me of a similar case diagnosed as one of Sulzberger-Garbe disease by several dermatologists in various parts of the country. It subsequently was proved to be a case of dermatitis due to wallpaper. The case would seem to raise the questions as to whether or not the Sulzberger-Garbe disease was an entity and whether psychogenic factors necessarily play a causative role.

DR. L. F. WEBER: I should like to ask what there is in wallpaper that could cause such a syndrome.

DR. HERBERT RATTNER: I do not know, but I understand that Dr. Oppenheim eventually traced the trouble to wallpaper. The story I received was that the wallpaper in the patient's bedroom was of an imported variety. After it was removed from the wall, there was immediate improvement of the dermatitis. I know only what I was told—I myself did not follow the case to the end.

DR. MAURICE OPPENHEIM (by invitation): The patient came to me in May with a diagnosis of leukemia. The hematologic findings were not compatible with a diagnosis of leukemia. Now he is all right after mild conservative treatment. The skin was much overtreated. I kept him in a hospital with absolute rest for three months. He is now working, and the blood count is normal.

DR. M. H. EBERT: This patient is shown through the courtesy of Dr. Cornbleet, in whose service he is. I became interested in him on making rounds because Dr. Leaf and Dr. Pearl, who studied in New York, were convinced when we first saw him that he had all the earmarks of a Sulzberger-Garbe dermatosis and the history would fit in with that diagnosis. He has been in the Cook County Hospital six weeks, and since admission he has improved and today does not present the picture he did when we first saw him.

Because of two nodules on the back of the hands and the nodular-like lesions on the other parts of the body, it was suggested that the eruption might be a lymphoblastoma, but the section did not bear this out. A sternal puncture was made, and the observations suggested to the hematologist that it was an early lymphoblastoma. That would account for the high eosinophil count. It remains to be seen whether or not there will be a new flare-up.

A Case for Diagnosis (Lymphoblastoma?). Presented by DR. HERBERT RATTNER and (by invitation) DR. H. RODIN and DR. M. S. KAGEN.

A 57 year old white woman entered the Cook County Hospital with a history of cough for two years, loss of weight of 40 pounds (18 Kg.), a daily elevation of temperature to 101 F. and occasional hemoptysis. Purplish nodules, the size of a small marble, are present on the extensor surfaces of the forearms, arms, thigh and face. These nodules first appeared eighteen months ago.

Tubercle bacilli were found in the sputum. The urine contained albumin (1 plus). The Kahn reaction of the blood was negative. A roentgenogram of

the chest showed a dense irregular round opacity between the sixth and ninth left ribs. The hematologic examination showed 12,000 leukocytes, with 80 per cent polymorphonuclears (40 per cent band forms), 7 to 8 per cent metamyelocytes, 6 per cent monocytes and 6 per cent eosinophils.

A histologic section was presented.

DISCUSSION

DR. MARCUS R. CARO: I thought that the sections showed the histologic changes of leukemia. I showed them to a general pathologist, and he thought that the eruption was some type of lymphoblastoma. I do not believe that this is a case of sarcoid.

DR. RUBEN NOMLAND, Iowa City: I think that this is a special type of aleukemic lymphatic leukemia in which there is enlargement of the lymph nodes, but no changes of blood. I have seen 4 or 5 such patients with enlarged lymph nodes in which cutaneous lesions developed without a leukemic blood picture.

Acrodermatitis Atrophicans Chronica and Squamous Cell Epithelioma. Presented by DR. THEODORE CORNBLEET and (by invitation) DR. HENRY C. SCHORR and DR. M. S. KAGEN.

A 58 year old white woman has had an atrophic process of the extensor surfaces of both upper and lower extremities. The epitheliomatous lesion has been present on the back of the right hand for one year. The patient is presented to show the combination of atrophy and superimposed malignant changes.

A histologic section was presented.

DISCUSSION

DR. HAMILTON MONTGOMERY, Rochester, Minn.: Some authors classify acrodermatitis atrophicans chronica as a precancerous dermatosis. In a recent paper with Major R. R. Sullivan (Acrodermatitis Atrophicans Chronica, ARCH. DERMAT. & SYPH. **51**:32-47 [Jan.] 1945), I pointed out that acrodermatitis atrophicans chronica is rarely associated with neoplastic changes and that development of epithelioma is usually coincidental and is associated with senile keratoses. This patient had received a severe trauma to her hand before the epithelioma developed. It is not uncommon to obtain a history of epithelioma following trauma or chronic indolent ulcers resulting from trauma. Acrodermatitis atrophicans chronica is not per se a precancerous dermatosis and should not be so classified.

DR. OLIVER S. ORMSBY: Some years ago I had a patient with a similar lesion on the back of the hand that followed a bite by a horse. That proved to be a squamous cell epithelioma. The only therapy in such a case is surgical removal. The lesion would be resistant to treatment with roentgen rays or radium. Dr. Mitchell photographed my patient, and the photograph is a counterpart of the appearance of the patient presented today.

DR. MAURICE OPPENHEIM (by invitation): The combination of epithelioma with acrodermatitis is extremely rare. In my article on "Atrophy of the Skin," in the *Handbuch* of Jadassohn, I mentioned only 1 case that had come under my observation among the many cases I observed. Sarcoma cutis seems to occur frequently in combination with acrodermatitis atrophicans, like the formation of fibromas, acrofibromatosis, which I was the first to describe in this disease. In the case presented today the biopsy specimen showed a squamous cell epithelioma on the right finger, but the patient had sustained a trauma to that finger. I do not believe that acrodermatitis atrophicans chronica is to be considered as a precancerous disease as it is the degenerative senile atrophy of the skin or that farmers' and sailors' skin, or the chronic roentgen ray or radium changes of the skin are to be so considered.

DR. H. E. MICHELSON, Minneapolis: I should like to emphasize that injury plays a part in the pathogenesis of cancer on the back of the hand. Dr. Bell,

pathologist of the University of Minnesota College of Medicine, in sectioning such a lesion, found a sliver of wood in the center. One must keep constantly in mind that such a cancer may be listed as an industrial risk.

DR. L. F. WEBER: I have been interested in the subject for a long time and have been following the discussion in *The Journal of the American Medical Association.* Did trauma precede the lesion? I do not know how one is going to prove the point.

DR. MAURICE OPPENHEIM (by invitation): Regarding cancer and repeated trauma, I agree with Dr. Ormsby and Dr. Michelson that this is a typical cancer with all the earmarks of a preceding trauma. The traumatic cancer originates on areas of the skin where it is exposed to repeated, frequent little injuries. I mention only the cancer on the temporal area where the bow of the spectacles is continually rubbing, or, much better known, the so-called *Schusterdaumenkrebs,* or "shoemaker's thumb cancer," described by Stahr, following the repeated, frequent injury to the right thumb, where the awl cuts the thumb when the shoemaker perforates the leather or cuts the leather with the paring knife; the right thumb stops the awl and the paring knife.

DR. L. F. WEBER: That is not the type of cancer under discussion. The same thing occurs in the pitch industry.

Dermatitis Venenata Due to Hair Dye. Presented by DR. DAVID V. OMENS and (by invitation) DR. M. S. KAGEN.

D. E., a Negro woman aged 26, had her hair dyed black on Dec. 16, 1944. No shellac or hair straightener was used. Twenty-four hours later the scalp and face became swollen, followed by oozing of the scalp. The eruption continued to become severer, the patient being unable to open her eyes on December 19.

DISCUSSION

DR. L. F. WEBER: I think that the patient brings out one interesting fact. She said that a patch test was applied and that the reaction was negative; therefore, there is no value in administering patch tests to a patient never exposed to this hair dye.

DR. J. H. MITCHELL: Are you in accord with Sulzberger's theory that one cannot be sensitized without being exposed to the drug itself?

DR. L. F. WEBER: I am interested in this subject from the standpoint of the preemployment patch tests. I do not see that it is going to do any good if the patient has never been exposed to the different materials. I am willing to say that a material like mercury may give immediate response, but that is a different story. Suppose a new product should become available; I do not see any good in giving a patch test unless the person is exposed.

DR. J. H. MITCHELL: What was the source of the paranitroaniline dye when it was put on the market?

DR. L. F. WEBER: I do not know the source. During the last year dermatitis due to hair dye has become more frequent. I wonder whether any one knows the explanation. I have not come across the exact formulas. Here there is a Federal Trade Commission that is supposed to investigate these materials. They have physicians testifying and spending their time without much effect.

DR. OLIVER S. ORMSBY: In making a patch test most hairdressers put the dye on the back of the ear and wait for fifteen minutes; if there is no reaction then they go on with the dyeing. Dr. Ebert and I have seen several patients with a severe dermatitis on the face, scalp and contiguous regions, including the area where the test patch was applied by the hairdresser. The hairdressers do not give the patch test which they use sufficient time to show whether or not the subject will react.

DR. DAVID V. OMENS: The point which Dr. Weber brought out is interesting. This patient had had a patch test, as I understood, of twenty-four hours' duration. On a negative reaction to the test the hairdresser proceeded to dye the hair. In twenty-four hours the woman came down with this dermatitis. I first saw her yesterday evening. The point I should like to bring up is that if hairdressers do not make a patch test and a dermatitis develops then they are liable.

Hypertrophic Lichen Planus. Presented by DR. DAVID V. OMENS and (by invitation) DR. M. S. KAGEN.

T. S., a white woman aged 71, suffered from gastric distress two years ago, and roentgenologic examination after a barium sulfate meal revealed a carcinoma of the stomach. Five months ago, shiny annular papules appeared on the dorsa of the hands, new lesions soon appearing on the extensor surfaces of the forearms, on the chest and neck and on the extensor surfaces of the legs. The eruption has improved during the past month while she has been in the hospital.

The histologic section showed lichen planus hypertrophicus.

DISCUSSION

DR. DAVID LIEBERTHAL: One does not find a generalized eruption in addition to hypertrophic plaques, except a scanty number of lichen papules in some cases and then as a rule near the plaques. I did not see the microscopic sections and would appreciate a description of these. Clinically I do not agree with the diagnosis.

DR. DAVID V. OMENS: The histologic section showed lichen planus hypertrophicus—e. g., there was a hyperkeratosis; the stratum granulosum was wanting; there was acanthosis with edema of the prickle cell layer and liquefaction necrosis of the basal cell layer; the papillae were elongated and edematous with dilatation of the blood vessels, and the uppermost portion of the corium presented a dense infiltrate composed of small lymphocytes which extended up into the papillae.

DR. DAVID LIEBERTHAL: How far did the infiltration go?

DR. DAVID V. OMENS: Up into the summits of the papillae.

DR. DAVID LIEBERTHAL: In lichen hypertrophicus the cellular infiltration is not confined to the papillary and subpapillary layers but extends rather deeply into the corium. The epidermis shows considerable hypertrophy.

DR. MARCUS R. CARO: I examined the section and thought the changes consistent with the diagnosis of lichen planus.

A Case for Diagnosis (Rheumatic Nodules?). Presented by DR. THEODORE CORNBLEET.

A. P., a Negro woman aged 37, had a sore throat on May 15, 1944, followed by pain and swelling of the shoulder and hip joints, the thighs, knees and the leg. For the past six weeks pain and swelling have been present in the right forearm. Inflammatory nodules appeared subcutaneously on the flexor surface of the right forearm. The patient's temperature has remained elevated, at about 101 F. The throat is moderately injected, and there is a soft systolic murmur at the apex. The electrocardiogram showed a sinus tachycardia. A roentgenogram revealed that the chest was normal.

The sedimentation rate was 66 mm. per minute. The tuberculin test elicited a strongly positive reaction in a dilution of 1 : 10,000. The urine was normal. The hematologic examination showed a hemoglobin content of 31 per cent, 3,200,000 erythrocytes, and 29,000 leukocytes, with a differential distribution of 79 per cent polymorphonuclears, 8 per cent lymphocytes and 13 per cent monocytes. The nonprotein nitrogen level of the blood was 23 mg. per hundred cubic centimeters.

DISCUSSION

DR. THEODORE CORNBLEET: These lesions have almost completely disappeared since last week. There is little now on which to base a diagnosis, but my feeling was that these were rheumatic nodules.

A Case for Diagnosis (Purpura?). Presented by DR. THEODORE CORNBLEET and (by invitation) DR. DAVID COHEN and DR. M. S. KAGEN.

V. K., a housewife aged 44, has had lesions on both legs for eight years. The patient dates the onset from a trauma of the left leg, which resulted in an ulcer. On both legs and ankles there are multiple lesions in various stages of evolution; one of them at the inner surface of the right ankle has a sharply outlined border, somewhat hemorrhagic in character. Its center is covered with scaly crusts. There are definite hemorrhagic and telangiectatic borders at the periphery which are sharply outlined. The lesions leave brownish stains with some atrophy. They are painful. The patient has difficulty in getting about and uses crutches. During her stay in the hospital, bullous elements were no longer seen.

Examination of the blood showed a hemoglobin content of 80 per cent and a differential leukocyte count of 70 per cent polymorphonuclears, 21 per cent lymphocytes, 8 per cent monocytes and 1 per cent eosinophils. The urine showed an occasional white blood cell and a small quantity of albumin. Determination of the blood chemistry showed a nonprotein nitrogen content of 37 mg., a glucose content of 75 mg. and a total cholesterol content of 167 mg. per hundred cubic centimeters. The basal metabolic rate was —11 per cent. The Kahn reaction was negative. The fluoroscopic examination of the chest showed no abnormalities.

DISCUSSION

DR. H. E. MICHELSON, Minneapolis: By coincidence I have observed a patient in the last few weeks with lesions almost identical with these. When I first saw her, I thought that the diagnosis was either erythema multiforme or purpura. I believe now that the whole disease is on a purpuric basis.

DR. THEODORE CORNBLEET: The noteworthy thing about this eruption is its rapid and unpredictable changes. Today hemorrhage and vascularity are the keynotes; yet these have on other occasions been totally absent. Dr. Ebert noted blisters at one time, and I have seen grouped vesicles followed by superficial crusts. There has been a play of suggestion between Majocchi's disease and necrobiosis lipoidica diabeticorum, but the disease seems to be neither. Simple purpura with secondary changes may prove to be the final diagnosis.

Keratosis Follicularis (Darier). Presented (by invitation) by DR. Z. FELSHER and DR. S. ROTHMAN.

A. M., a white man aged 34, began to have "red pimples" on the chest six years ago, which persisted and gradually increased to confluent crusting areas. The initial lesion was described as a papule, which later became eroded, oozing and crusting. The involvement of the chest was followed by an eruption in the groins, in the axillas and on the abdomen, back, face and scalp. There is practically no itching and only slight burning. In recent years there has been but slight variation in the eruption, in spite of treatment elsewhere with intravenous injections of calcium salts, applications of ointments and ingestion of pills and capsules of unknown composition.

The examination reveals large reddish brown raised patches with yellowish greasy crusts on the areas mentioned. Near these patches single red crusted papules can also be seen. An offensive odor is present.

The laboratory examinations, including studies of vitamin A, have not yet been completed, as the patient was first seen in the University of Chicago clinics a few days ago.

The fluoroscopic examination revealed that the chest was normal. The Wassermann and Kahn reactions were negative.

DISCUSSION

DR. DAVID V. OMENS: This is the first case of Darier's disease I have seen in which I thought I saw some inflammation of the mucous membrane around the gingival margin.

DR. S. ROTHMAN (by invitation): Involvement of the buccal mucous membrane was reported in several cases at the Eleventh International Convention.

NEW YORK ACADEMY OF MEDICINE, SECTION OF DERMATOLOGY AND SYPHILIS

Harry C. Saunders, M.D., *Chairman*

Frank Vero, M.D., *Secretary*

Jan. 2, 1945

A Case for Diagnosis (Melanoma of Skin?). Presented by DR. CHARLES WOLF.

I. M., a man aged 51, has had for many years a flat pigmented lesion in the epigastric region, covering an area 3 by 4 cm. Pigmentation is lighter on the lower third and darker on the upper two thirds. In the latter section there are three raised rather firm nodules, the size of a split-pea, covered with a scale.

The Wassermann reaction of the blood was negative.

DISCUSSION

DR. MAURICE J. COSTELLO: Therapy for malignant melanoma is discouraging as a rule, but wide surgical excision of the lesion with resection of lymph nodes would probably be the best approach.

DR. DAVID BLOOM: Clinically, the lesion may be a benign pigmented nevus. In order definitely to ascertain the diagnosis a biopsy is necessary.

DR. LOUIS CHARGIN: I am in favor of Dr. Bloom's suggestion. It is difficult to obtain a good history from this patient. He says that he has had the lesion for a good many years, but whether it was nevus or is a new growth it is hard to tell. The lesion has become darker than it was originally, but it certainly does not show the clinical characteristics of a malignant melanoma. One should not hesitate to perform a biopsy in order to make certain of the diagnosis, but one should be prepared to perform a radical excision if the lesion turns out to be a melanoma.

DR. GEORGE M. LEWIS: I agree with Dr. Chargin. I believe that the presence of a rough and irregular surface helps to distinguish the lesion from a true melanoma. The patient's history of having had the lesion all his life, with no change of recent date, is certainly in favor of a benign lesion. If biopsy is performed, the frozen section technic should be employed.

DR. FRED WISE: I see no reason why one cannot perform a simple excision extending a quarter of an inch (0.6 cm.) beyond the lesion, suture the edges of the wound and then study the histologic features. I think that there is no urgency whatever about the therapy. I believe that a simple operation is all that is necessary for a lesion of this kind and that wide and deep excision is contraindicated.

DR. LOUIS CHARGIN: It has always been my practice to do as Dr. Wise suggests—namely, when a lesion is amenable to surgical intervention and lends itself with ease to suturing, this is the procedure I nearly always practice. How-

ever, the lesion which this patient presents is so located that it will be impossible to draw the skin together without tension. Therefore, I advise a biopsy first; then, if it proves necessary, a wide excision should be performed, followed by a graft.

DR. OSCAR L. LEVIN: This type of lesion is always of great interest, first, because of the question of diagnosis and, second, because of its prognosis. It is frequently impossible to state from a cursory examination whether the lesion is malignant or benign. I have observed similar lesions which were apparently benign but which recurred after removal. On the other hand, a pigmented, verrucous, hypertrophic, growing lesion which suggests a malignant growth may be cured by the same method of treatment. I believe that this lesion is benign, but it should be thoroughly destroyed. As to the treatment of malignant cutaneous lesions, there is always great difficulty in knowing what to do. I perform as few biopsies as possible, but I remove the whole lesion without unnecessary trauma. In this case, after removal of the lesion, the skin may be drawn together or left open and allowed to heal by granulation. Growths suspected of being malignant should not be curetted for examination of tissue, but should be removed and sent for pathologic investigation, especially if thought to be melanocarcinoma. In this case I would give a favorable prognosis if the lesion is removed completely, either by surgical methods or by the cutting current. No form of therapy would be of avail if the lesion should prove to be a melanocarcinoma.

DR. MAX SCHEER: Most of the men who have discussed this case assume that if the lesion is malignant it is a melanocarcinoma. I recently saw a man 70 years of age with a pigmented nevus which was proliferating. Biopsy was performed, and Dr. Sachs reported it as a beginning prickle cell epithelioma.

DR. CHARLES WOLF: Performing a biopsy is impractical for a lesion of this sort, because one may cut a part of the tissue which shows no malignant changes, whereas in another part of the lesion there may be definite signs of malignancy. It is therefore of advantage to excise the entire lesion. Nothing is lost thereby, and added information is obtained. Furthermore, the prognosis is influenced by the entire elimination of the lesion. If it is found that the lymphatics and capillaries are infiltrated by malignant cells, the prognosis is grave with regard to ultimate cure. Statistics show that 30 per cent of all lesions of this kind are melanocarcinomas, which recur within two to five years after complete excision. Pack, of Memorial Hospital, who has had the greatest experience in number of patients treated, states that 14 per cent survive after five years. Therefore, complete excision is the treatment of choice on a part of the anatomy where it can be done. I presented to this society last year an old man with a nevocarcinoma or melanoma of the foot in which the question of amputation arose. The patient decided against it, and roentgen ray therapy was given with extremely good results. I feel that dilly-dallying with these lesions is not the proper approach. If the patient has any chance, it is by complete excision at the first sitting.

Necrobiosis Lipoidica Diabeticorum Without Diabetes. Presented by DR. HENRY SILVER.

D. F., a woman aged 59, came to the dermatologic clinic of Mount Sinai Hospital on Aug. 29, 1944, complaining of lesions on the legs. There were no subjective symptoms, and the patient seemed to be otherwise in good health.

On the extensor surface of the right leg there is a large plaque about 2 inches (5 cm.) wide and 6 inches (15 cm.) long, well defined, parchment-like and tense. The central portion shows numerous telangiectases. The margin is brownish, and the center is reddish yellow. There are smaller lesions on the lateral aspect of the right leg and the dorsal surface of the leg, which are indurated and copper red, with central healing. Some of the lesions show scar formation and others telangiectasia. The configurated lesion below the left knee shows a firm infiltrated brownish border with a central atrophic area. On diascopic pressure some of the lesions show a yellow, waxy color.

Examination of the blood showed 88 per cent hemoglobin and 6,350 white blood cells, with 68 per cent segmented forms, 1 per cent nonsegmented leukocytes, 27 per cent lymphocytes, 3 per cent monocytes and 1 per cent eosinophils. The blood sugar level was 94 mg. per hundred cubic centimeters on October 18 and 102 mg. on December 31. Tuberculin tests elicited negative reactions with dilutions of 1:1,000, 1:10,000 and 1:100,000. The Wassermann reaction of the blood was negative. The urine was normal. Histologic examination showed changes compatible with sarcoid (reported by Dr. P. Klemperer).

DISCUSSION

DR. DAVID BLOOM: It seems strange to me that of the many cases of necrobiosis lipoidica which I have observed personally or which I have seen presented at meetings diabetes was found in only a few. The histologic structure of sarcoid, together with tuberculin anergy, justifies the diagnosis of sarcoid. A study of the lungs and bones is indicated.

DR. FRED WISE: Although some parts of the eruption closely simulate both scleroderma and sarcoid, I regard the eruption to be necrobiosis lipoidica, despite the histologic report. Disseminated sarcoid strictly confined to the legs is a possible diagnosis but an extremely unlikely one.

DR. MAURICE J. COSTELLO: I think that the patient has necrobiosis lipoidica. In sarcoid there is usually no scarring, which this patient does show in the center of the lesions. I think that the color is redder than is usual for necrobiosis lipoidica, but the play of color from red to yellow seen in that dermatosis is present.

DR. PAUL GROSS: The histologic changes of sarcoid bear out the diagnosis of necrobiosis. These sarcoid-like changes have been described by several authors, and I have seen such cases with a microscopic picture very difficult to distinguish from that of sarcoid. Clinically, I think that there is no doubt of the diagnosis of necrobiosis.

DR. LOUIS CHARGIN: I should like to join those who think that it is necrobiosis and not sarcoid for the following reasons: The sex of the patient and the location of the eruption are points strongly in favor of necrobiosis instead of sarcoid. The character of the lesions is also in favor of necrobiosis; the scleroderma-like lesions with raised borders, the play of colors and, lastly, the histologic picture, all favor necrobiosis. As Dr. Gross has stated, a sarcoid-like histologic structure has been found frequently in necrobiosis. Diabetes is found in 70 per cent of the cases.

DR. CHARLES MILLER: I agree with the clinical diagnosis of necrobiosis lipoidica. The microscopic picture of sarcoid is different from that of necrobiosis lipoidica. In sarcoid there are naked tubercles, singly or in grouped masses of epithelioid cells with little cellular reaction about them. In necrobiosis there is a cellular reaction composed of epithelioid cells, round cells and wandering connective tissue cells about a central area of necrosis. In an old lesion of necrobiosis the cellular reaction about the necrotic zone may be composed almost entirely of epithelioid cells, with an occasional or many giant cells. This necrotic zone in the center is not seen in sarcoid. The report of sarcoid-like structure to me means a cellular reaction in which there is a predominance of epithelioid cells. This does not make the histologic diagnosis of sarcoid. With the features previously noted, the histologic diagnosis of necrobiosis lipoidica can be made.

DR. FRANK VERO: Several years ago I presented a patient from the Vanderbilt Clinic with the clinical picture of scleroderma, in which the histologic picture showed a sarcoid-like structure (A Case for Diagnosis: Tuberculous Granuloma (?), ARCH. DERMAT. & SYPH. **29**:453 [March] 1934). Another similar case was presented from the Lincoln Hospital, in which the lesions resembled both scleroderma and necrobiosis (Sarcoid, Sclerodermatiform Tuberculous Type (Gougerot), ARCH. DERMAT. & SYPH. **37**:895 [May] 1938). In the discussion Dr. Traub mentioned similar observations. In the *Handbuch* several other cases have been cited as having been described by Gougerot as sclerodermatiform sarcoids.

If the lesions below the knee in this case were seen on the face, I think that one would not hesitate to make a diagnosis of sarcoid. I feel that further histologic studies are necessary in order to rule out sarcoid.

DR. HENRY SILVER: I agree with those who regard the case as one of necrobiosis lipoidica. Dr. Bloom and others feel that the lesions are more suggestive of sarcoid. Dr. Miller states that if the lesion below the knee were seen on other parts of the body—for example, on the forehead—he would not hesitate to diagnose it as sarcoid. To my mind, the lesion below the left knee, which shows changes seen in morphea, is clinically characteristic of necrobiosis. It has been stressed by Oppenheim that in some cases atrophy is a salient feature, and before Urbach penned the name "necrobiosis lipoidica diabeticorum" Oppenheim suggested the name "dermatitis atrophicans lipoidica diabeticorum."

Before dermatologists became familiar with this disease, cases of this type were regarded as instances of localized scleroderma. Some of the members will recall the case presented before this section by Dr. Gross as one of morphea with xanthomatous changes, later diagnosed as necrobiosis lipoidica (ARCH. DERMAT. & SYPH. **30**:598 [Oct.] 1934).

I fully agree with Dr. Chargin's clinical analysis of the case. Also in favor of necrobiosis is the observation made by Dr. Wise, namely, that no case of sarcoid has been observed in which the eruption is strictly limited to the legs. These features, the clinical character of the lesions with the glazed appearance, telangiectasia and atrophy and the atypical histologic picture strongly suggest necrobiosis lipoidica.

As to nomenclature, Dr. Bloom's point is well taken. Too many cases of necrobiosis in nondiabetic patients are on record to warrant the inclusion of the descriptive but misleading term "diabeticorum."

Xanthelasma. Presented by DR. JACK WOLF.

J. G., a man aged 76, is presented from the dermatologic clinic of the Mount Sinai Hospital, with an eruption of two years' duration. There was nothing unusual in his past history except that some fifteen years previously he had contact with aniline dyes in the course of his occupation.

The patient presents a rather unusual and striking picture, with diffuse yellowing of the neck, the upper aspect of the chest and the shoulders. The eruption is flat, nonelevated and not thickened. On the upper and lower lids the eruption is more localized; here it is elevated and extends in rimlike fashion by coalescence over the inner and outer canthi. The yellowish infiltration is widely distributed over the face but occurs chiefly in strands along the folds of the skin on the forehead, cheeks and chin.

The blood sugar level was 89 mg. per hundred cubic centimeters. The serum albumin content was 2.8 Gm., serum globulin 2.2 Gm. and total protein 5 Gm. per hundred cubic centimeters. The urea nitrogen was 18 mg. and the cholesterol level 210 mg. per hundred cubic centimeters, of which 160 mg. was esterfied forms. Biopsy was reported as indicating xanthomatosis.

DISCUSSION

DR. MAX SCHEER: This is the most extensive case of xanthelasma that I have ever seen, and I should not be surprised if it were the most extensive on record.

DR. PAUL GROSS: It is known that xanthelasma of the eyelids is simply xanthoma. It has nothing to do with degeneration of muscle fibers. This is a case of extensive xanthoma, the unusual feature being the distribution, especially over the neck. The distribution may remind one of pseudoxanthoma elasticum, and, despite the age of the patient, this disease should be ruled out.

DR. JACK WOLF: The eruption resembling pseudoxanthoma elasticum on the neck has no bearing on the extensive superficial xanthelasma eruption on the face

and chest. The unusually extensive sheetlike character of the eruption, I felt, warranted the presentation.

Acanthosis Nigricans (Juvenile). Presented by DR. JACK WOLF.

G. I., a Negro girl aged 14, is presented from the dermatologic clinic of the Mount Sinai Hospital, with an eruption on the chin, neck and intermammary region of one years' duration. The eruption appeared suddenly and assumed its present form within a relatively short period.

The greater part of the neck is covered with deep black, transverse, linear, hypertrophic strands, approximately 1/16 of an inch (0.16 cm.) in width, separated by furrows whose bases represent normal cutaneous markings. In the intermammary region the strands are neither as elevated nor of the same deep black color—assuming a brownish black hue—as they are on the chin and the neck. The anterior aspect of the chin is erythematous and dry and imparts a sense of roughness to the touch. The surrounding zone is hyperpigmented.

Except for pronounced obesity, physical examination revealed no abnormality.

The blood count and the results of a sugar tolerance test were normal. The blood calcium level was 7.1 mg. and cholesterol 300 mg. per hundred cubic centimeters. The basal metabolic rate was ± 0. A roentgenogram of the skull showed the sella turcica to be normal. Roentgenologic studies of the gastrointestinal tract revealed no abnormalities.

Histologic examination showed hyperkeratosis, acanthosis alternating with areas of atrophy of the prickle cells, striking pigmentation of the basal layer and absence of *corps ronds*. It was felt that this conformed with acanthosis nigricans.

DISCUSSION

DR. HELEN O. CURTH: The beginning of the cutaneous lesions dates back two years, to the time when the patient began to menstruate. In about 50 of the reported cases the cutaneous lesions developed at the time of puberty. Children either are born with acanthosis nigricans or show the first lesions in early childhood or at puberty. As to the prognosis, I think that the disease in this case has every chance to remain benign; that is, there may be some spreading of the cutaneous lesions or some regression in the next few years, without the rapid spreading and intensification of these lesions paralleling the course of accompanying cancer which characterize the malignant form. While one may say cautiously that cases in which cutaneous lesions develop long after puberty are all cases of the malignant type, the reverse is not true. A few persons with the malignant type have been found among those in whom the lesions developed in childhood or during puberty.

DR. FRED WISE: I agree with the diagnosis.

DR. CHARLES WOLF: It seems worth while to me to investigate the case further. The patient has stigmas which indicate that the adrenal glands or one of the endocrine glands is affected. I should therefore like to be certain that hypernephroma or Wilms's tumor is eliminated. On the strength of that I suggest further roentgenographic study and also pituitary examination. In such cases malignancy of either or both of those glands sometimes appears later.

DR. JACK WOLF: This patient has been studied thoroughly. Roentgenologic examination revealed that the skull is normal. An attempt will be made to carry out the suggested study of the kidneys.

Pustular Psoriasis (?) Treated with Penicillin Ointment. Presented by DR. HENRY SILVER.

H. T., a man aged 52, a barber, is presented from the department of dermatology of the Mount Sinai Hospital. He has been suffering from an eminently chronic recurrent eruption involving the hands and feet for the past fourteen years. He states that at intervals he has been completely free of the eruption. Being a barber,

the patient necessarily comes into frequent contact with hair lotions, shampoos, etc. In 1934 he was treated at the clinic of Mount Sinai Hospital with a variety of ointments and roentgen rays without appreciable benefit. In 1940 he was seen at the dermatologic clinic of the New York Hospital. At that time he showed erythematous scaly lesions with some thickening on the soles and outer sides of the feet. There was little scaling between the toes. The palms were reddened, slightly thickened and scaly. A few discrete pustules were scattered over this area. The impression was that the patient was suffering from pustular psoriasis.

The last episode began in October 1944, involving chiefly the hands. The palms, and especially the ulnar sides, showed densely set vesicular and pustular lesions the size of a pinpoint or pinhead. The sides of the fingers were similarly involved. The soles showed circumscribed quarter-sized scaly patches. Scaling and slight maceration were seen between the toes. Cultures were negative for fungi.

On December 19 an ointment containing 500 units of penicillin per gram was prescribed. One week later only a few pustules were present on the palms. Most of the lesions dried and began to desquamate. The eruption has since considerably improved.

Histologic examination revealed parakeratosis, absence of the stratum granulosum, thinning of the suprapapillary portion of the epidermis and widening and thickening of the interpapillary portion of the epidermis. Focal spongiosis and vesiculation with a few polymorphonuclear leukocytes were seen. The picture was that of psoriasis, but no conspicuous microabscesses were found.

DISCUSSION

DR. DAVID BLOOM: This is probably a case of pustular psoriasis. Whether penicillin can be considered to be beneficial for this disease can be determined only from observation of its effect in many cases of pustular psoriasis. Improvement may be infrequently observed following application of boric acid ointment. In the past few months I have found Goeckerman's treatment of psoriasis to be beneficial also in treating pustular psoriasis.

DR. FRED WISE: I admit the possibility that the patient has pustular psoriasis, but there is no direct evidence to that effect. It has been my practice not to diagnose palmar and plantar eruptions as pustular psoriasis unless there is evidence of psoriasis—past, present or future—on other parts of the body. It is hazardous to make that diagnosis without corroborative lesions. The results of penicillin therapy are interesting, but they do not affect the diagnostic problem.

DR. GEORGE M. LEWIS: I agree with Dr. Wise that in many cases it is possible to make a diagnosis of pustular psoriasis without finding lesions on other parts of the body. I should like to call the attention of the members to the cases presented at the October meeting in which Dr. Frederick Reiss pointed out the value of intravenous injections of antimony and potassium tartrate in the treatment of the disease. Since then additional cases with this treatment have been followed and it does seem to be a worth while procedure. The drug must be given with care and the patient watched for reactions. Penicillin has not been too successful in the treatment of virus diseases. It may be just a coincidence that there has been improvement in this case.

DR. PAUL GROSS: I am afraid that the issue is being somewhat obscured. First of all, the society should go on record as saying that there are two diseases: The one is pustular psoriasis, which may begin with vesicles but in which sooner or later lesions typical of psoriasis develop, and the other has rightly been put by Andrews under the heading of pustular eruptions of the palms and soles. Some of these eruptions may be cleared successfully by the removal of the foci of infection, but I do not know of any psoriasis which will respond to such methods. One must distinguish between those two groups. If there is an eruption on the palms and soles and if there is response to a sulfonamide ointment or penicillin, I should be inclined to consider the disease a local streptococcic infection. Even in the case of bacterid one may get a response with an antiseptic ointment. On the other hand, if one wants to prove the response of psoriasis, why not take a patient

with typical psoriasis and administer penicillin? Many patients with psoriasis ask whether they should use a sulfonamide ointment. Pustular psoriasis, if investigated, will show many features of psoriasis, including a hypercholesteremia, and in my hands it has responded to soybean phosphatides. I think that in order to differentiate between the two diseases one must go a little further than giving them a name.

DR. HENRY SILVER: I appreciate Dr. Wise's strict criteria for establishing a diagnosis of pustular psoriasis. In spite of the points in favor of this diagnosis, I still hesitate to regard this case as one of definite pustular psoriasis and I therefore stressed the occupational element. The patient is a barber and frequently comes into contact with alkalis, hair tonics, shampoos and other materials, which conceivably played a role in the recurring episodes during the fifteen or sixteen years he has suffered from the eruption.

As regards the penicillin ointment, it contains 500 Oxford units per gram, made up in a greaseless base. I do not want to convey the impression that penicillin ointment cured pustular psoriasis. I am simply submitting this case as one of a series of cases of dermatoses in which the local action of penicillin is being studied. Only two weeks ago the patient presented an acute vesiculopustular eruption, with numerous lesions on the palms. The eruption responded favorably and rapidly to the treatment.

Sycosis Vulgaris Treated with Penicillin Ointment. Presented by DR. HENRY SILVER.

H. L., a man aged 55, came to the dermatologic clinic of the Mount Sinai Hospital on April 4, 1944, presenting an eruption limited to the upper lip, of four months' duration. The patient had been treated previously at the surgical clinic for a localized cellulitis of the tip of the nose. From April until May 15, 1944, he was treated successively with ointments containing chlorohydroxyquinoline, sulfathiazole and ammoniated mercury, without benefit. From May 15 to 31 he was given three exposures (75 r each) of unfiltered roentgen rays. The eruption failed to respond to treatment. On November 30 the eruption was limited to the left side of the lip. The involved area was erythematous and edematous and studded with pinhead-sized pustular lesions. Some of these dried, forming superficial yellowish crusts. An ointment containing 500 Oxford units of penicillin per gram was prescribed. By December 16 the improvement was striking. The patient began to shave daily. One week later the eruption had completely cleared.

DISCUSSION

DR. MAURICE J. COSTELLO: I did not see the patient, but I should like to bring up a point. The eruption of sycosis vulgaris apparently does not respond completely to the intramuscular injection of penicillin, but it is favorably influenced by penicillin ointment, 500 units per cubic centimeter of vehicle.

DR. CHARLES WOLF: I am sure that Dr. Silver does not want to convey the impression that sycosis vulgaris is going to be cured by the application of penicillin. This patient has had many attacks of the disease, which is a recalcitrant dermatosis that improves with a variety of treatments. Only a year ago I treated him for a pronounced lymphangitis accompanying the sycosis of the upper lip. It cleared with topical applications. One can learn the effect of penicillin ointment by observing the length of time this man remains free of symptoms. It is rather early now to draw conclusions, a week after apparent involution. It would be worth while to have a few cases presented at some future time, after observations have extended over a longer period.

DR. LOUIS CHARGIN: I have had experience in treating 3 patients having sycosis with penicillin ointment, all of them previously treated with other remedies, such as roentgen rays and antiseptic ointments including chlorohydroxyquinoline ointment, with reasonable success for long periods but always followed by recur-

rence. I can now report equally good results from penicillin ointment, in 1 case after one month and in the 2 others after two weeks each. However, I know full well that it is impossible to speak of a cure in any case of this disease without prolonged observation. One patient, in whom atrophy of the skin developed following roentgen ray treatment and who, in addition, had active lesions for almost a year, has been considerably improved after four weeks of treatment with penicillin ointment.

DR. FRED WISE: Have there been any reactions?

DR. LOUIS CHARGIN: None of the 3 patients whom I treated have had reactions.

DR. HENRY SILVER: My impression is that penicillin applied locally is of considerable value in sycosis vulgaris. The patients I have observed for the past few months have shown decided improvement. This patient responded rather rapidly to the treatment. He has been under my care for over a year, and all attempts to influence the condition failed. The eruption was extremely resistant and flared up frequently. Four weeks ago before penicillin therapy was begun, the upper lip was considerably swollen and studded with pustules. Within ten days the inflammation subsided and then cleared. Dr. Rosen, who observed the patient while he was under treatment, was surprised at the rapid involution. I agree with Dr. Costello that the local action of penicillin is apparently specific for sycosis vulgaris while penicillin by the intramuscular route does not influence the disease.

Pityriasis Lichenoides et Varioliformis Acuta. Presented by DR. ISADORE ROSEN.

H. K., a man aged 35, is presented from the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital, with a generalized eruption of six weeks' duration. The eruption consists of reddish round slightly infiltrated lesions, measuring about 5 mm. to 7 mm. in diameter, most of which show a scaly collaret at the periphery or are covered with a thin crust or scale. The eruption is more profuse on the flanks than on the back and the abdomen but is particularly profuse on the anterior and posterior aspects of the extremities. There is also involvement of the palms and soles and of the glans and sulcus coronae of the penis. The face is free of lesions. The eruption appeared six weeks ago on the right thigh, and within a week it spread all over the body. There is mild pruritus.

General examination revealed a slight enlargement of the inguinal lymph nodes as the only abnormality.

The Wassermann reaction of the blood was negative.

DISCUSSION

DR. LOUIS CHARGIN: I expressed the opinion at another meeting that this was not a case of secondary syphilis, even though the eruption bore a close resemblance to that disease. Subsequently, I again had occasion to examine the patient and confirmed my first impression that one was not dealing with syphilis, particularly in view of the vesicular lesions present on the palms.

DR. DAVID BLOOM: The fact that this patient's face is entirely free of lesions, in contradistinction to the patient with secondary syphilis who shows a profuse papular eruption on the face, points also to the diagnosis as presented.

DR. MAURICE J. COSTELLO: This patient complains of severe itching, which also is not present in secondary syphilis.

A Case for Diagnosis (Mycosis Fungoides?). Presented by DR. ISADORE ROSEN.

A. E., a woman aged 69, is presented from the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital, with a generalized eruption of three years' duration, involving the face, trunk and extremities. Severe

pruritus is present. The eruption consists of infiltrated raised coin-sized red lesions which in most places have coalesced to form large plaques. On the abdomen the lesions are discrete and moderate in number.

General examination revealed enlarged axillary lymph nodes. Biopsy was reported as indicating only "dermatitis." The blood and differential counts were as follows: hemoglobin, 77 per cent; erythrocytes, 3,540,000, and leukocytes, 8,920, with 51 per cent polymorphonuclear leukocytes, 27 per cent eosinophils, 13 per cent lymphocytes and 9 per cent monocytes. The color index was 1.1.

DISCUSSION

DR. OSCAR L. LEVIN: When the patient was examined at Mount Sinai Hospital she showed an acute, generalized, almost universal dermatitis. I attributed the eruption to an external agent, possibly hair dye. However, the eruption persisted, resisted local treatment and after several months showed infiltration. During the past two years the infiltrations have become more pronounced, and tumor-like structures have developed. Lesions of this type may represent an allergic reaction of the skin with possible development of tumors made up of eosinophils, as I have observed in a case of dermatitis herpetiformis. This evening the skin showed areas which were white and apparently normal, while in other spots there were elevated lesions suggesting mycosis fungoides.

DR. JACK WOLF: This patient has had numerous biopsies, all with the histologic picture of chronic dermatitis. I favor the diagnosis of chronic lichenoid and discoid exudative dermatitis. The exudative lesion is predominant, but I do not believe that either this feature or the sex of the patient militates against this diagnosis.

DR. FRED WISE: I still believe that the patient is a candidate for mycosis fungoides. All dermatologists know that this disease is sometimes preceded by an eczematous dermatitis with a histologic picture showing nothing specific, and as times goes on the eruption may become transformed into mycosis fungoides. Dr. Wolf says that there is no reason to assume that exudative and discoid lichenoid dermatitis does not occur in females; I have never seen it in a female, though that does not say that it does not occur. In this case one has to take into consideration the fact that there are definite nodules and tumor-like formations on the arms. On the hand the patient has a frambesiform lesion about the size of a dollar, which has the clinical appearance of a granuloma. I should like to ask whether roentgen ray therapy has been attempted and, if so, what change it produced in the eruption.

DR. MAX SCHEER: I have also had an opportunity to follow this case for two years at Mount Sinai Hospital. One of my reasons for feeling that it is not a case of chronic lichenoid discoid dermatosis is that the clinical picture has been stationary during these two years, whereas in chronic lichenoid discoid disease the picture changes from time to time, sometimes resembling eczema, sometimes lichen planus and sometimes neurodermatitis or urticaria. This picture has remained unchanged, and although there is no histologic evidence I am of the opinion that this patient in all probability has mycosis fungoides.

DR. PAUL GROSS: I was unable to examine the patient while she was undressed. Was there any enlargement of lymph nodes? In the absence of massive lymphadenopathy I should be against a diagnosis of lichenoid discoid exudative dermatosis. I agree with Drs. Rosen and Wise that this patient may eventually show a typical picture of mycosis fungoides.

DR. GEORGE M. LEWIS: This patient was under my observation for only a short time, and my studies did not contribute anything to the further diagnosis of her case. My clinical impression was that she is a candidate for mycosis fungoides, based on the duration, the intense pruritus and the infiltrative type of lesion to be seen.

MANHATTAN DERMATOLOGIC SOCIETY

George M. Lewis, M.D., *President*

Wilbert Sachs, M.D., *Secretary*

Jan. 9, 1945

Localized Scleroderma and Calcinosis Cutis. Presented by DR. FRED WISE.

G. E., a man aged 42, in excellent general health, presents a tumor-like mass over the lower portion of the right scapula, which he first noted, about a month ago. The affected area is about 4 inches (10 cm.) in diameter, slightly elevated above the surrounding skin and somewhat inflamed in the central portion, which is more prominent than the surrounding tissues of the plaque. To the palpating finger, the degree of induration is that of a hard rubber ball. The skin over the tumor mass is firmly bound down and has the clinical features of scleroderma. The biopsy punch encountered tissue which cut like gristle. Pain and tenderness are absent.

Histologic examination did not reveal sufficient changes to establish a definite diagnosis but indicated the existence of scleroderma with deposits of calcium in the corium.

DISCUSSION

DR. E. WILLIAM ABRAMOWITZ: I accept the diagnosis in this case.

DR. VAN ALSTYNE H. CORNELL (by invitation): The man stated that the eruption has been better in the last few days and that he has had it for only three or four weeks. I am wondering whether that was an accurate statement.

DR. DAVID BLOOM: In the cases of calcinosis which I have seen there were lesions over the joints—the elbows, knees and fingers. I favor the diagnosis of possible scleroderma in this case.

DR. MAURICE J. COSTELLO: I think that the patient has localized scleroderma. The lesion is not hard enough to be circumscribed calcinosis, and the duration would certainly be unusually short for the evolution of a lesion of cutaneous calcinosis, in my experience. I studied 1 such patient carefully, and I think that it takes many months for nodules to form. Also, as Dr. Bloom mentioned, they are all located over the joints.

DR. WILBERT SACHS: I thought that it was a case of scleroderma. Of course, it is always possible that calcium will be deposited in scleroderma. One would not need much tissue to see calcium if it were calcinosis. The sections would be difficult to cut.

DR. MAX SCHEER: I also feel that it is scleroderma.

DR. HERMAN SHARLIT: A diagnosis of calcinosis, to be justified, would permit no question in the mind of the pathologist. Just cutting the tissue with a knife is sufficient to reveal deposits of calcium salts. If there is any doubt that it is not a case of calcinosis I suggest that sections be sent to the laboratory for quantitative determination of the calcium present.

DR. GEORGE M. LEWIS: There is one other possible diagnosis, and that is scleredema. This lesion is not in a location usual for scleroderma, and the lesion impresses me as showing edema rather than sclerosis. When I questioned the patient, he said that he had had the lesion for only three or four weeks, but this was indefinite. He just happened to feel it, and it was then about the same size as it is tonight; he thinks that there has been no change in the last little while. Calcinosis cutis is the last disease I should consider, and I am at a loss to understand why it is even mentioned.

DR. FRED WISE: The patient has no definite knowledge of the duration of the lesion, but he is sure that it was not preceded by an injury. When the specimen for biopsy was taken the tissue gave the impression of sectioning cartilage. Although microscopic examination failed to demonstrate calcium in the tissues,

it is possible that it was missed and that biopsy of another area would reveal its presence.

A Case for Diagnosis (Pseudoxanthoma Elasticum [?] in an Albino Negro Woman). Presented by DR. DAVID BLOOM.

E. S., a Negro woman aged 38, has had universal albinism all her life, except for a small number of brown spots, some of which are spider-like, on her face, neck and chest. The irises of the eyes are light brown and the pupils dark. The hair is reddish.

Besides albinism the patient presents other defects. The eyes show horizontal nystagmus, and the vision is defective (10/200). The patient suffers from photophobia. The palms, and more especially the soles, are hyperkeratotic. Both legs show pronounced nonpitting edema. The skin on the back of the wrists is thickened and shows accentuation of the lines. The skin of the neck shows a yellowish tinge, is considerably thickened and shows accentuation of the lines.

The patient's daughter is 10 years old and normal in color and other respects. The patient is one of fourteen children. Four siblings, three of whom are alive, were also albinos. The parents are both black, but the mother's father, aunt and uncle were albinos. Several paternal uncles and aunts were albinos.

DISCUSSION

DR. FRED WISE: I agree with the diagnosis as presented.

DR. MAURICE J. COSTELLO: I did not get the impression that this patient had xanthoma elasticum, because one could not pick up the skin. In pseudoxanthoma elasticum one can "tent" the skin between the fingers. This patient has accentuation of the normal markings of the skin, but it is not thrown up into folds. The history of the case was most interesting because of the fact that there were several other albinos in the same family.

DR. MAX SCHEER: I think that this is a senile, or rather, presenile form of degeneration of elastic tissue such as is sometimes seen in younger people and in sailors, farmers and persons much exposed to ultraviolet rays and such as one would expect to find in this patient, who has no pigment to protect the skin. I do not think that the disease is pseudoxanthoma elasticum.

DR. HERMAN SHARLIT: I, too, am impressed by the fact that skin of that type is seen in farmers, sailors and in aging people; however, histologic study of the area should clear any doubts.

DR. GEORGE M. LEWIS: The skin in the cubital fossae might be compared with the skin on the side of the neck for looseness or coarse wrinkling. I did not see lesions to support Dr. Bloom's diagnosis.

DR. DAVID BLOOM: I intend to have an ophthalmologist examine the patient's eyes. As brought out in the history, there are several albino members in the families of both parents. Among twelve children, five were albinos, one of whom is the patient presented tonight. As albinism is a recessive trait, one would expect one fourth of the offspring to be affected, or three instead of five.

Paget's Disease of the Nipple. Presented by DR. MAURICE J. COSTELLO.

M. B., a woman aged 49, a private patient, has had an eruption confined to the nipple and areola of the left breast for three years. It began around the left nipple and spread by peripheral extension. The patient states that a "sore" would form and heal, only to recur.

The eruption never disappeared at any time. About twenty-five years ago the patient had an abscess of the left breast which was incised above and below the present lesion.

The eruption is erythematous, sharply circumscribed, raised, shiny and infiltrated. There is no regional adenopathy.

DISCUSSION

DR. VAN ALSTYNE H. CORNELL (by invitation): I thought that the eruption was an eczematous process. It appeared superficial to me. I felt no induration or tumor-like condition. I have observed only a few cases, but I have always felt a tumor underneath the nipple.

DR. MIHRAN B. PAROUNAGIAN: Unless the disease is confirmed by biopsy, I would regard it as eczema rather than Paget's disease. It is superficial and eczematous in appearance.

DR. DAVID BLOOM: The fact that the eruption occurs on one breast only should make one suspect Paget's disease. A biopsy is necessary in order to be certain of the nature of the lesion.

DR. JACK WOLF: I think that this may well be a case of Paget's disease. Radical mastectomy is indicated.

DR. WILBERT SACHS: I believe this is a case of Paget's disease, but if it should be one of eczema there are malignant changes setting in. I advise mastectomy but not the radical procedure.

DR. MAX SCHEER: Some years ago I presented a patient with similar, but less extensive, lesions. In that case a biopsy specimen was taken about ½ inch (1.2 cm.) to the side of the nipple and was reported as indicating eczema. A subsequent specimen, taken directly through the nipple area, showed definite cancer. I suggest that biopsy be made of a specimen taken directly through the nipple area. This history, the character of the lesion and its unilateral location, all point definitely to Paget's disease, and if this is confirmed I think that mastectomy should be sufficient.

DR. HERMAN SHARLIT: I completely endorse everything Dr. Scheer just said.

DR. FRED WISE: Biopsy must determine the diagnosis. I think that the clinical manifestations and the history are strongly in favor of Paget's disease.

DR. E. WILLIAM ABRAMOWITZ: I agree with the diagnosis of Paget's disease of the nipple. I am of the belief that Paget's disease of the nipple is a manifestation of cancer of the mammary duct—not a lesion that begins outside and extends inside, but one which begins in the breast. Weeping is not as important a clinical symptom of Paget's disease of the nipple as a persistent ulceration. With the patient on the table, a section should be taken and examined, and if it proves to be carcinoma amputation of the breast is in order. I have followed that course in several cases with good results, whereas if one waits until the lump is felt I think that it is too late.

DR. WILBERT SACHS: Paget's disease may start in the epidermis or it may start in the ducts, or in both at the same time.

DR. MAX SCHEER: May I take exception to Dr. Sachs's statement? I was under the impression—not through personal experience but from the literature—that in all these cases the disease begins as intracanalicular cancer and involves the skin secondarily and that this is what is called epidermal Paget's disease. If biopsy were performed deep into the breast, intracanalicular carcinoma would probably be found.

DR. JACK WOLF: I should like to know why simple mastectomy is favored instead of radical excision for a process going on for three years, which more than likely started within the breast tissue.

DR. MAURICE J. COSTELLO: I think that this case lacks nothing in the clinical sense to prevent it from being a classic case of Paget's disease of the nipple. Everything that one would outline to students is present. One important point is that this lesion has never receded, never improved, never disappeared and always extended. I am inclined to agree that it is intracanalicular, because most of these lesions begin at the nipple and spread from that point. It is interesting to observe the sharp line of demarcation between the tumor and the normal skin on transillumination.

A Case for Diagnosis (Lupus Erythematosus; Tuberculosis?). Presented by Dr. E. William Abramowitz.

R. P., a Negro woman aged 30, came to the clinic of the Skin nd Cancer Unit of the New York Post-Graduate Medical School and Hospital on Oct. 23, 1944, with an eruption of two years' duration on the face.

On the left side of the nose near the canthus of the eye there is a nickel-sized, slightly raised. strongly hyperpigmented, hyperkeratotic plaque with an uneven surface. A similar lesion, but half as large, is present on the left side of the upper lip.

General examination revealed nothing essentially abnormal, except for some involuntary movements of the head for which the patient was referred to the neurologic department.

A blood count revealed a moderate anemia. The sedimentation rate was 24 mm. The Wassermann and Kahn reactions of the blood were negative. A roentgenogram of the chest showed extensive old calcification of the hilar nodes. Biopsy of both lesions was reported as showing possible tertiary syphilis. Tuberculin in a dilution of 1 : 10,000 elicited a 1 plus reaction.

From July to August, 1944, the patient received eight injections of oxophenarsine hydrochloride without any influence on the lesions. Following four weekly injections of gold sodium thiosulfate in the total amount of 110 mg., the lesions showed moderate involution.

DISCUSSION

Dr. Mihran B. Parounagian: I am in favor of a diagnosis of tuberculosis rather than of lupus erythematosus.

Dr. David Bloom: Both diseases may look alike in a Negro. Cutaneous tuberculosis in the Negro is known to assume many different appearances. The 2 cases reported by Dr. Mendelsohn and me have been diagnosed at the various societies as cases of lupus erythematosus, tuberculosis or syphilis. Of the two suggested diagnoses I favor lupus erythematosus.

Dr. Maurice J. Costello: I favor a diagnosis of lupus erythematosus of the hyperkeratotic type. The duration and the fact that there are two lesions instead of one suggest that diagnosis rather than lupus vulgaris.

Dr. Jack Wolf: I agree with the remarks made by Dr. Costello.

Dr. Wilbert Sachs: Microscopically, the granulation tissue and the pure plasma cell reaction would rule out a diagnosis of lupus erythematosus. There are no giant cells and no tubercles, which would eliminate a diagnosis of tuberculosis. To me the disease is suggestive of syphilis.

Dr. Herman Sharlit: I think that one should consider the fact that in colored skins the pigment at times is so great that it is impossible to be sure of any clinical diagnosis. If a biopsy report is presented in which evidence of the tuberculous group is distinctly absent, I think that it is only fair to accept this biopsy report and to rule out what the report says cannot be there. Sometimes the reverse is true, and the biopsy report needs interpreting in the light of clinical evidence. Here, however, the clinical picture is confused, and clinical judgment should carry little weight.

Dr. Fred Wise: I favor the diagnosis of lupus erythematosus.

Dr. Van Alstyne H. Cornell (by invitation): The disease did not look to me like lupus erythematosus clinically, but more like lupus vulgaris or syphilis. However, if it were the last it should have responded to antisyphilitic treatment. As I remember, the history said that administration of gold caused some improvement; hence I do not know what diagnosis to make. Clinically, I thought that the disease was syphilis.

Dr. E. William Abramowitz: Allowing for the peculiarities of tuberculosis in Negroes and not having a definite statement on the pathologic changes, of course I am more in favor of lupus erythematosus, knowing that Negroes have not only

peculiar types of tuberculosis of the skin but also peculiar types of lupus erythematosus. That opinion is based on my experience with several cases in which lupus erythematosus was not suspected even after histologic examination but proved to be cases of that disease after clinical and microscopic study.

Edema of Eyelids and Cheeks on Exposure to Wind and Cold; Physical Allergy. Presented by DR. MAURICE J. COSTELLO.

A woman aged 32 came to the clinic complaining of redness and swelling of the eyelids and cheeks. She stated that she had had similar attacks for the past three years when she exposed herself to cold or windy weather. The eruption could not be produced by cold water. There was no swelling of the hands or fingers when they were allowed to remain immersed in cold water. Ethyl chloride was sprayed on the chest for several seconds; an area of redness appeared immediately. It became edematous within a few minutes and was present at the end of one week, appearing as a lichenified scaly patch. The patient has been receiving injections of histamine phosphate twice a week, for a total of eight injections. She claims that she has had no recurrence of the eruption since treatment, in spite of the fact that she has not avoided the cause.

DISCUSSION

DR. E. WILLIAM ABRAMOWITZ: In most instances of physical allergy it is difficult to demonstrate passive transfer. The treatment is interesting, and I hope that the improvement continues.

DR. JACK WOLF: The response to treatment is most interesting and brings to mind the results obtained with histaminase in the treatment of allergic manifestations. It was found fairly useless, except in occasional cases of physical allergy.

DR. GEORGE M. LEWIS: I wondered whether anything had been applied to the eyelid since the patient has ceased to have these attacks.

DR. MAX SCHEER: Did you try applying ice?

DR. MAURICE J. COSTELLO: No, I told her not to. I once heard that histamine should be of value in treating the physical allergies, if it were to be of value at all. I do not think that there is a psychogenic factor in this case. The patient is not neurotic. Soon after the injection of histamine phosphate in very small doses, the eruption cleared. I think that there is a definite relationship between the treatment and the result. My colleagues and I are now using histamine in treatment of about 20 patients with atopic eczema, urticaria and similar eruptions, and although I have not formed any definite opinion as yet the great majority have improved, some as remarkably as this patient.

A Case for Diagnosis (Granuloma Annulare; Tuberculid?). Presented by DR. ISADORE ROSEN.

A. D., a youth aged 20, came to the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital on Dec. 11, 1944, with an eruption on the left side of the face of eighteen months' duration, which appeared six months after he entered the army. It began with a small lesion on the left side of the face and gradually extended to involve the whole left side of the face.

The eruption consists of discrete nodules, many of which are brown and covered with scales. At the border near the nose, on the upper lip and below the ear there are elongated lesions composed of raised nodules.

An examination showed that the urine and the blood were normal. The Kahn and Wassermann reactions of the blood were negative. A tuberculin test done a few months ago at Fort Bragg, N. C., elicited a 4 plus reaction, while the one at the clinic at the Skin and Cancer Hospital elicited a negative reaction. A roentgenogram was reported from Fort Bragg as showing a normal chest. A biopsy performed a few months ago at the army hospital was reported as revealing

the pathologic conditions characteristic of lupus erythematosus. At the clinic here the histologic report was lupus vulgaris.

The past and family histories were essentially irrelevant.

DISCUSSION

Dr. Wilbert Sachs: This case belongs to the group of cases of tuberculosis. Definite tubercles and a tremendous reaction are present. I called the disease lupus vulgaris. There is no evidence of granuloma annulare. It may be one of the other types of tuberculosis falling into the class of lupus vulgaris.

Dr. Max Scheer: In a case of this kind, with a clinical appearance of lupus vulgaris and a fairly extensive eruption, one would expect to find at least one or more apple-jelly nodules. I cannot offer a diagnosis, but clinically I do not think that it is lupus vulgaris.

Dr. Wilbert Sachs: As far as apple-jelly nodules are concerned, that presupposes that one obliterates the surrounding inflammatory reaction. One may not be able to see apple-jelly nodules if the lesion is deep.

Dr. Herman Sharlit: I examined the biopsy section and saw tubercles scattered all through this lesion. I still think that while one must say that the lesion is a tuberculid I am not convinced that one is compelled to say that it is lupus vulgaris; but it is a tuberculid of some kind.

Dr. Fred Wise: I agree with Dr. Sharlit. I believe that one is dealing with tuberculosis of the skin, but the clinical picture is not that of lupus vulgaris.

Dr. E. William Abramowitz: I had heard that the patient was under the care of Major Leifer and that a definite diagnosis of lupus erythematosus was made histologically. Nevertheless, the definite annular lesions with areas of infiltration at the edges and the short duration suggested granuloma annulare. The presence of tubercles in the biopsy specimen is disconcerting, and it still may be some unusual type of tuberculosis of the skin.

Dr. Van Alstyne H. Cornell (by invitation): I agree with the statements made by Dr. Sachs.

Dr. David Bloom: I favor the diagnosis of tuberculid.

Dr. Maurice J. Costello: I think that the patient has some form of tuberculosis of the skin, probably a sharp allergic response to previous infection. It might almost be one-sided tuberculid of Lewandowsky. It would be interesting to perform tuberculin tests. I suggest gold therapy.

Dr. Jack Wolf: Even if there is no agreement on the clinical diagnosis, a histologic diagnosis of tuberculosis must be accepted, and time will probably help in telling what the type is.

Directory of Dermatologic Societies *

INTERNATIONAL

Tenth International Congress of Dermatology and Syphilology

Oliver S. Ormsby, President, 25 E. Washington St., Chicago.
Paul A. O'Leary, Secretary-General, 102–2d Ave. S.W., Rochester, Minn.
Place: New York. Time: Postponed indefinitely.

Pan American Medical Association, Section of Dermatology and Syphilology

J. J. Eller, President, 745–5th Ave., New York.
Austin W. Cheever, Secretary, 464 Beacon St., Boston.

FOREIGN

British Association of Dermatology and Syphilology (Canadian Branch)

D. E. H. Cleveland, President, 925 W. Georgia St., Vancouver, B. C.
Donald H. Williams, Secretary-Treasurer, 925 W. Georgia St., Vancouver, B. C.

North British Dermatological Society

President: Senior dermatologist in whichever city a meeting is convened.
G. A. Grant Peterkin, Secretary, 4 Walker St., Edinburgh 3, Scotland.

Royal Society of Medicine, Section of Dermatology

M. Sydney Thomson, President, King's College Hospital, Denmark Hill, London S. E. 5, England.
Geoffrey R. Edwards, Secretary, 1 Wimpole St., London W. 1, England.

Sociedad Mexicana de Dermatología

Mario Salazar Mallén, President, Ignacio Ramírez 11, México, D. F., Mexico.
Fernando Latapí, Permanent Secretary, Zacatecas 220-6, México, D. F., Mexico.

NATIONAL

American Medical Association, Scientific Assembly, Section on Dermatology and Syphilology

Clyde L. Cummer, Chairman, 1422 Euclid Ave., Cleveland.
Nelson P. Anderson, Secretary, 2007 Wilshire Blvd., Los Angeles.

American Academy of Dermatology and Syphilology

George M. MacKee, President, 999–5th Ave., New York.
Earl D. Osborne, Secretary, 471 Delaware Ave., Buffalo 2, N. Y.
Place: Hotel Statler, Cleveland. Time: Dec. 8-12, 1946.

American Board of Dermatology and Syphilology

C. Guy Lane, President, 416 Marlborough St., Boston.
George M. Lewis, Secretary-Treasurer, 66 E. 66th St., New York.

American Dermatological Association

Fred D. Weidman, President, Medical Laboratories, University of Pennsylvania, Philadelphia.
Harry R. Foerster, Secretary, 208 E. Wisconsin Ave., Milwaukee.

Society for Investigative Dermatology

Henry E. Michelson, President, 715 Medical Arts Bldg., Minneapolis.
S. William Becker, Secretary, 55 E. Washington St., Chicago 2.

* Secretaries of dermatologic societies are requested to furnish the information necessary for the editor to make this list complete and to keep it up to date.

SECTIONAL

Central States Dermatological Association

Emerson Gillespie, President, 120 Tuscarawas St. W., Canton, Ohio.
Townsend W. Baer, Secretary-Treasurer, 508 Jenkins Arcade Bldg., Pittsburgh 22.

Mississippi Valley Dermatological Society

Lawrence C. Goldberg, Secretary-Treasurer, 623 Doctors Bldg., Cincinnati.

New England Dermatological Society

Bernard Appel, President, 281 Ocean Ave., Lynn, Mass.
G. Marshall Crawford, Secretary, 1101 Beacon St., Brookline 46, Mass.

Northern New Jersey Dermatological Society

John Kiley, President, 94 Park St., Montclair.
Henry Abel, Secretary, 339 Union Ave., Elizabeth.
Place: Academy of Medicine of Northern New Jersey, Newark. Time: Third Tuesday of March, April, October and December.

Pacific Northwest Dermatological Society

Henry Odland, President, Medical Dental Bldg., Seattle, Wash.
Robert L. Howard, Secretary, 965 Paulsen Medical and Dental Bldg., Spokane, Wash.

Southeastern Dermatological Association

Howard Hailey, Chairman, 107 Doctors Bldg., Atlanta, Ga.
A. H. Lancaster, Secretary, P. O. Box 585, Knoxville, Tenn.

Southern Medical Association, Section on Dermatology and Syphilology

A. H. Lancaster, Chairman, P. O. Box 585, Knoxville, Tenn.
Winfred A. Showman, Secretary, 108 W. 6th St., Tulsa, Okla.

Southwestern Dermatological Society

Louis Jekel, President, Professional Bldg., Phoenix, Ariz.
George K. Rogers, Secretary, Grunow Memorial, Phoenix, Ariz.

STATE

California Medical Association, Scientific Assembly, Dermatology and Syphilology Section

Frances A. Torrey, Chairman, University of California School of Medicine, San Francisco.
Herman Arlington, Secretary, 3115 Webster St., Oakland, Calif.

Connecticut State Medical Society, Section on Dermatology

F. Earle Kunkel, Chairman, 179 Allyn St., Hartford.
Louis O'Brasky, Secretary, 1172 Chapel St., New Haven.

Florida Society of Dermatology and Syphilology

Sam F. Ricker, Chairman, 33 E. Livingston Ave., Orlando.
Wesley W. Wilson, Secretary, 215 N. Boulevard, Tampa.

Hawaii Dermatological Society

Harry L. Arnold Jr., Secretary, 881 Young St., Honolulu.

Louisiana Dermatologic Society

Barrett Kennedy, President, 200 Cardondelet St., New Orleans.
V. Medd Henington, Secretary, Charity Hospital, New Orleans.

Massachusetts Medical Society, Section on Dermatology and Syphilology

Bernard Appel, President, 281 Ocean St., Lynn.
Fenner A. Chace, Secretary, 151 Rock St., Fall River.

MEDICAL SOCIETY OF THE STATE OF NEW YORK, SECTION ON DERMATOLOGY AND SYPHILOLOGY

E. W. Abramowitz, President, 853–7th Ave., New York.
Shepard Quinby, Secretary, 333 Linwood Ave., Buffalo.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, SECTION ON DERMATOLOGY

M. A. Pettler, Chairman, 1319–8th Ave., Beaver Falls.
Herman Beerman, Secretary, 2422 Pine St., Philadelphia 3.

MICHIGAN STATE MEDICAL SOCIETY, SECTION ON DERMATOLOGY AND SYPHILOLOGY

Kenneth Moore, Chairman, 1613 Union Industrial Bank Bldg., Flint.
Ruth Herrick, Secretary, 26 Sheldon Ave. S.E., Grand Rapids 2.

MINNESOTA DERMATOLOGICAL SOCIETY

Louis A. Brunsting, President, 102–2d Ave. S.W., Rochester.
Rodney F. Kendall, Secretary-Treasurer, 1160 Lowry Bldg., St. Paul.
Time: First Friday in January, April, July and October.

OKLAHOMA STATE DERMATOLOGICAL SOCIETY

John H. Lamb Jr., President, Medical Arts Bldg., Oklahoma City.
M. M. Wickham, Secretary, 716 W. Symmes St., Norman.

TEXAS DERMATOLOGICAL SOCIETY

William Spiller, President, 906–22d St., Galveston.
John Brav, Secretary-Treasurer, Medical Arts Bldg., Dallas.

LOCAL

BALTIMORE-WASHINGTON DERMATOLOGICAL SOCIETY

Hayden Kirby-Smith, Chairman, 1610–20th St. N. W., Washington, D. C.
Lawrence B. McCaleb, Secretary-Treasurer, 1835 I St. N. W., Washington, D. C.
Place: Alternate cities. Time: Third Thursday of each month.

BRONX DERMATOLOGICAL SOCIETY

Wilbert Sachs, President, 57 W. 57th St., New York.
Henry Silver, Secretary, 290 West End Ave., New York.
Time: Fourth Thursday of each month from October to May, inclusive.

BROOKLYN DERMATOLOGICAL SOCIETY

Joel Schweig, President, 47 E. 61st St., New York.
Nathan Pensky, Secretary, 2167–81st St., Brooklyn.
Time: Third Monday of each month except June, July, August and September.

BUFFALO-ROCHESTER DERMATOLOGICAL SOCIETY

James W. Jordon, President, 471 Delaware Ave., Buffalo 2.
Frank A. Dolce, Secretary-Treasurer, 468 Delaware Ave., Buffalo 2.

CENTRAL NEW YORK DERMATOLOGICAL SOCIETY

Albert Van Vranken, President, 1565 Union St., Schenectady.
Maxwell C. Snider, Secretary, 106 Oak St., Binghampton.

CHICAGO DERMATOLOGICAL SOCIETY

Maxwell C. Snider, Secretary, 106 Oak St., Binghamton.
Leonard F. Weber, Secretary-Treasurer, 7 W. Madison St., Chicago 2.

CINCINNATI SOCIETY OF DERMATOLOGY AND SYPHILOLOGY

R. G. Senour, President, 937 Carew Tower, Cincinnati 2.
Alfred L. Weiner, Secretary-Treasurer, 615 Union Central Bldg., Cincinnati 2.
Place: Cincinnati. Time: 8:15 p. m., first Wednesday of each month, except July, August and September.

Cleveland Dermatological Society

Harley A. Haynes Jr., President, 175 S. Main St., Akron, Ohio.
G. W. Binkley, Secretary, 10515 Carnegie Ave. S. E., Cleveland 6.
Time: Fourth Thursday of each month from September to May, inclusive.

Detroit Dermatological Society

James R. Rogin, President, 2306 David Broderick Tower, Detroit 26.
C. E. Reyner, Secretary-Treasurer, Henry Ford Hospital, Detroit 2.

Kansas City (Mo.) Dermatological Society

C. C. Dennie, President, 1103 Grand Ave., Kansas City.
Thomas B. Hall, Secretary, 902 Professional Bldg., Kansas City.

Los Angeles Dermatological Society

Maximilian E. Obermayer, President, 1930 Wilshire Blvd., Los Angeles.
Franklin I. Ball, Secretary, 6253 Hollywood Blvd., Los Angeles 28.
Time: Second Tuesday of each month, October to May, inclusive.

Manhattan dermatologic Society

David Bloom, Chairman, 345 E. 77th St., New York.
Wilbert Sachs, Secretary, 6 E. 85th St., New York.

Metropolitan Dermatological Society

Leslie P. Barker, President, 120 E. 75th St., New York.
Thomas Graham, Secretary, 118 E. 61st St., New York.

Montreal Dermatological Society

Paul Poirier, President, 456 Sherbrooke St. E., Montreal, Canada.
Alphonse Bernier, Secretary, 3995 St. Denis St., Montreal.

New York Academy of Medicine, Section of Dermatology and Syphilis

Herman Sharlit, Chairman, 32 E. 64th St., New York.
Maurice Costello, Secretary, 140 E. 54th St., New York 22.

New York Dermatological Society

Eugene Traub, President, 140 E. 54th St., New York 22.
George M. Lewis, Secretary-Treasurer, 66 E. 66th St., New York.

Omaha Dermatological Society

Donald J. Wilson, President, 1113 Medical Arts Bldg., Omaha.
Leonard J. Owen, Secretary-Treasurer, 954 Stuart Bldg., Lincoln 8, Neb.

Philadelphia Dermatological Society

J. M. Schildkraut, Chairman, 170 W. State St., Trenton, N. J.
D. A. Decker, Secretary, 218 N. 8th St., Allentown, Pa.
Time: Third Friday of every month except June, July and August.

Pittsburgh Dermatological Society

Emerson Gillespie, President, First National Bank Bldg., Canton, Ohio.
Townsend W. Baer, Secretary, 5058 Jenkins Arcade Bldg., Pittsburgh 22.
Time: Third Thursday of every month except July and August.

St. Louis Dermatological Society

G. V. Stryker, President, 634 N. Grand Blvd., St. Louis.
Morris Moore, Secretary-Treasurer, 3427 Washington Blvd., St. Louis 3.
Place: Barnard Free Skin and Cancer Hospital. Time: 8 p. m., third Monday of each month.

San Francisco Dermatological Society

Ervin Epstein, President, 1904 Franklin St., Oakland, Calif.
Frances M. Keddie, Secretary-Treasurer, 450 Sutter St., San Francisco.
Time: Third Friday of February, April, September and November.